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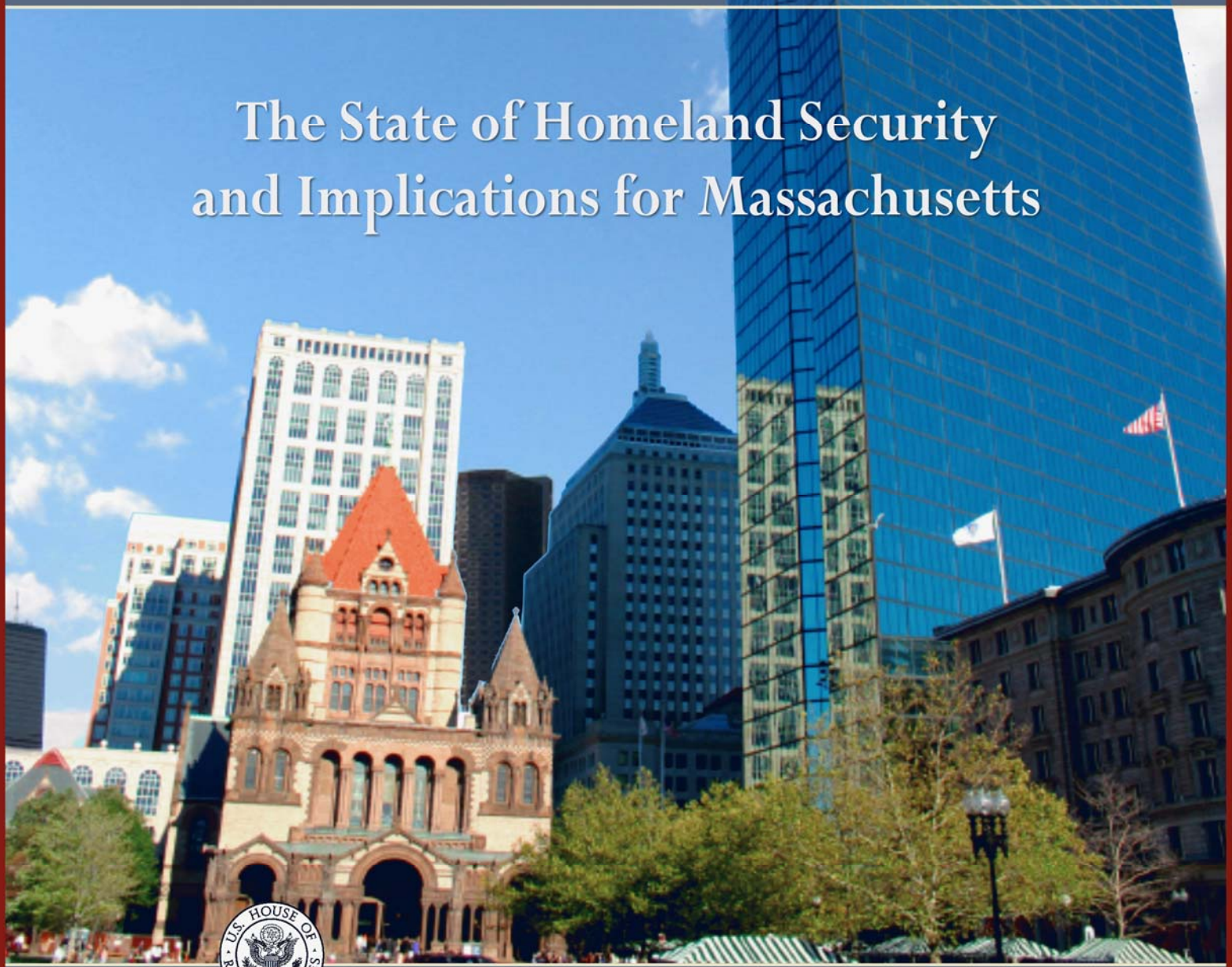
TO SECURE AMERICA

The State of Homeland Security and Implications for Massachusetts



PREPARED AT THE REQUEST OF CONGRESSMAN EDWARD J. MARKEY

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The attacks of September 11, 2001 were an unexpected and stark wake up call that Americans were vulnerable to terrorist attacks here at home. The hijackings and subsequent weaponization of commercial aircraft has forever changed our nation's approach to transportation security and to our homeland security.

More recently, the British government's disruption of a terrorist plot to utilize liquid-based explosives to blow up airliners in flight from the United Kingdom to the United States served as an urgent reminder of dangerous security loopholes that remain open to exploitation by terrorists determined to attack our country.

In the aftermath of 9/11, Congress, its investigatory agency the General Accounting Office (GAO), the Department of Homeland Security's Office of Inspector General (OIG), and the National Commission on Terrorist Attacks on the United States (9/11 Commission), have all raised questions about several security vulnerabilities that still threaten our aviation security. One of these serious security gaps exists in the cargo hold of most airliners.

Approximately 22 percent of all cargo transported by air in the United States is carried in the cargo hold of passenger planes. While airline passengers process through the TSA's security screening lines and ultimately take seats on commercial jets, nearly half of the storage space beneath is loaded with cargo that is rarely inspected or screened for explosives.

The Bush Administration's response to the dangerous cargo loophole has been the usage of the so-called "Known Shipper" program, which relies on paperwork checks and information about shippers, which may not be accurate. Reliance on data is no substitute for actual physical scanning of cargo, just as showing an ID at a passenger checkpoint is no substitute for walking through metal detectors and having all checked and carry-on baggage scanned. Moreover, in its October 2005 report entitled "Federal Action Needed to Strengthen Domestic Air Cargo Security", which was requested by Rep. Markey and other Members, GAO wrote that the Transportation Security Administration (TSA) has information on less than one-third of the estimated 1.5 million known shippers.

A related vulnerability exists with packages weighing less than 16 ounces (1 pound). Pieces of "counter-to-counter" cargo weighing less than 16 ounces can be brought to airline ticket counters, baggage claim areas or cargo holds for many major airlines, and placed upon *specific* passenger flights leaving as soon as 30 minutes after the package is dropped off at the request of *any* individual – the individual does not even need to be a "known shipper". Like the rest of the cargo placed on passenger airlines, there is no 100% inspection requirement. Pan Am Flight 103 was brought down over Lockerbie Scotland by explosives that weighed less than one pound.

The British terror plot disrupted several weeks ago reportedly would have involved the use of liquid explosives being smuggled onto a number of passenger planes by suicidal terrorists. The "counter-to-counter" cargo loophole does not require the terrorists to commit suicide –terrorists could simply deliver numerous packages containing bombs

weighing less than 16 ounces to multiple airlines/airports to be placed on multiple flights, and go home to wait for news of the explosions that could follow.

Congressman Markey initially identified this as a critical vulnerability on passenger planes in 2003 and immediately sought to close the loophole by requiring that all cargo placed on passenger planes be screened. Although his amendment passed the House, opposition from the Department of Homeland Security and industry resulted in his cargo amendment being stripped from the final version of the Homeland Security Appropriations bill, and it was not signed into law. The Bush Administration continues to side with the cargo and airline industry in opposition to the 100 percent scanning mandate. In fact, at one hearing before the Homeland Security Committee, Congressman Markey asked Homeland Security Secretary Chertoff if he would support a requirement that 100 percent of the cargo carried on passenger planes be inspected, the Secretary answered "No."

Inspecting the 23 billion pounds of air cargo that is transported annually is critical to keeping America secure. The 9/11 Commission Report concluded that "More attention and resources should be directed to reducing or mitigating the threat posed by explosives in vessels' cargo holds." The 9/11 Commission also gave cargo and checked baggage screening a "D" in its final report card in December 2005.

While the Transportation Security Administration has enhanced its efforts with inspectors and canine dog teams, this comes nowhere near meeting the need to screen all cargo. Half measures from the government, such as commissioning research projects to identify technologies for screening large amounts of cargo, are little more than benchmarks until implementation is achieved.

Why should our shoes and baby formula be scrutinized for bombs, but not the cargo bound for the belly of a Boeing?

ENCOURAGING CHANGE

Since 9/11, Congressman Markey has led the effort to require that all the commercial cargo carried on passenger planes be inspected for bombs. On several occasions, Congressman Markey has authored and presented key amendments to security legislation that would require this mandatory screening, however, the language has been fought by the airlines, other corporate interests and governmental regulators.

In May 2005, Congressman Markey introduced H.R. 2649, the Strengthen Aviation Security Act, which requires operators of airports serving general aviation aircraft and landing facilities to complete vulnerability assessments developed by the DHS Secretary that can evaluate the physical security of each airport and the procedures, infrastructure, and resources used at each facility. The bill requires these airport operators to develop a plan for addressing vulnerabilities identified in these assessments within a year of the enactment of the bill.

Congressman Markey's bill also requires several other important security measures for general aviation aircraft. Specifically, the bill requires aircraft to affix immobilizing devices like prop locks when the aircraft is being stored, and requires any individual with access to these aircraft to undergo a social security check, a check of immigration status, a check against all terrorist watch lists maintained by the government, and a background check for security approval.

IMPACTING OUR COMMUNITY

There are 19,000 small, "general aviation" airports around the U.S., with at least one in each state. Over the last five years, there have been more than 70 thefts of small aircraft at these airports, and in February 2002, a teenager was able to steal a small aircraft, which ultimately crashed into a building in Florida. The simple reality is that the aviation sector, and its assets, remain vulnerable to intentional acts of crime and terrorism and could potentially be tools for mass casualty and mass panic events. This should not be the case and could be prevented if only the federal government acted to comprehensively secure the transportation sector.

At home, Massport has worked to develop new security measures at Logan Airport to better secure its customers and our communities. From 2003-2004, Massport developed and implemented a project at Logan to demonstrate the feasibility of screening all cargo and determined that the technology to screen all cargo worked and that screening could be accomplished without impeding commerce. However, lacking any federal requirement and the resources to carry out this protective measure, airports everywhere, including Logan, continue to allow unscreened cargo on passenger planes today.

Over the course of the past couple of years, the airport has begun several perimeter security projects. For example, Logan Airport is working to install a new $25 million biometric-based security system for access control, which is expected to be operational by the end of the year.

In addition to its biometric controls, Logan is working to replace every chain link fence separating secure locations from the public with a 10-foot concrete wall complete with barbed wire attachments. This measure will exceed the federal requirements for securing sensitive airport operations areas.

The state of chemical plant security is in peril. According to the Environmental Protection Agency, more than 100 facilities in 22 States have the potential to harm 1 million or more people in the event of a terrorist attack or worst case accidental release.

The vulnerability of our nation's chemical plants exists in part because of a lack of Federal regulations governing security protocols and safeguards at these critical sites, which are mostly operated by private companies or state and local contractors. For some time, trade organizations such as the American Chemical Council have worked to develop security guidelines for their members, but these voluntary attempts at self-regulation lack the oversight and enforcement authority needed to enact and ensure real security.

In July 2006, the House Homeland Security Committee considered and passed H.R. 5695, the Chemical Facility Anti-Terrorism Act of 2006, which would allow the Department of Homeland Security to establish baseline security protocols that must be adopted to harden our nation's chemical security assets and protect neighboring communities. Similar legislation is pending in the Senate; however, the two bills face some industrial opposition and will have to be considered on the Floor and reconciled with one another before real action can be achieved.

ENCOURAGING CHANGE

Achieving chemical plant security in America requires a comprehensive review of plant vulnerabilities and solutions to fill the gaps. One significant issue that must be addressed is the application of safer chemical processes and procedures. The so-called "inherently safer technologies", or IST, seek to eliminate, reduce, or alter the use of dangerous chemicals or processes at plants around the country, thereby making sites less likely to be targeted by terrorists and less vulnerable to catastrophic outcomes from accidents at chemical plants.

Congressman Markey offered an amendment to H.R. 5695, the Chemical Facility Anti-Terrorism Act of 2006, which would require the use of safer technologies whenever possible. The acceptance of this amendment by the Committee represents a large step forward in reducing risks to our communities. Specifically, for the highest-risk facilities, the Markey language requires an assessment of the feasibility of using safer chemicals or switching to less dangerous processes. Each assessment will include ranking factors such as risk of being a terrorist target, level of risk to human health and the environment from a toxic release, the proximity of the site to nearby population centers, the potential threat caused by a terrorist obtaining chemicals in the plant, and the potential threat to critical infrastructure and national security from a terrorist attack. According to the Markey Amendment, the Secretary of Homeland Security can ultimately issue Orders requiring high-risk facilities to implement safer technologies if it is found to be economically and technologically feasible for them to do so.

IMPACTING OUR COMMUNITY

In March 2006, the Congressional Research Service (CRS) released a report commissioned by Congressman Markey to examine the status of chemical plant security. The report, which reviewed the populations living near large chemical facilities which would be at risk in the even of a terrorist attack, found that one chemical plant in the Commonwealth of Massachusetts operating with extremely dangerous chemicals could injure anywhere from 100,000 to 999,999 people in the event of an attack or accident. This data and others strongly suggest the need for enhanced chemical security. Requiring high-risk facilities to review IST opportunities in their manufacturing and storage processes and to adopt such safety measures where feasible could significantly reduce risk and vulnerability at chemical sites.

Solutia Chemical Plant: Located in Springfield, Massachusetts, this site is operated by Solutia (formerly Monsanto Corporation). Production at this facility requires the use of vinyl acetate monomer, which is used in plastics, adhesives, water-based paints and other products. For humans, this chemical irritates the skin, eyes, and respiratory tract and causes blistering. Inhalation of vapors may result in dizziness and in the worst case, suffocation.

Houghton Chemical Plant: According to another report produced by the Congressional Research Service, the Houghton Chemical plant in Allston, Massachusetts, operated with extremely hazardous chemicals on site that could have harmed more that 1 million people in the event of a worst-case attack or accident. In recent years, Houghton has restructured its reliance on some of the most dangerous chemicals and as such has lessened the risk to Massachusetts residents.

Serious Health Risks in Massachusetts: The Environmental Protection Agency (EPA) requires that plants file reports every 5 years detailing what chemicals, if any, they use on site. In addition to the two examples above, the EPA has determined that there are between 23 and 26 chemical plants in Massachusetts with extremely hazardous chemicals on site that could harm between 10,000 and 99,999 people in the event of a worst-case attack or accident.

Within Massachusetts, a number of efforts are under way to better secure chemical facilities. In the State House, Rep. Jay Kaufman (D-Lexington) and Sen. Steven Tolman introduced the Safer Alternatives to Toxic Chemicals Act in order to create a state program that can require businesses to adopt feasible safer alternatives to toxic chemicals and provide assistance and incentives to make the switch to safer chemicals.

In addition, the State House recently approved legislation to reduce the use of toxic chemicals through outreach and encouragement to companies. If this legislation is signed into law, this bill would strengthen the Toxics Use Reduction Act passed in 1989, which is credited with decreasing the use of hazardous chemicals without increasing the cost of doing business in the state, an important balance to reach.

Nuclear Power Plant Security

Nuclear power plants and related storage facilities around the world have long been suspected targets of terrorists, who seek to inflict mass damage by causing the leak of contaminated materials into our communities, or who seek to breach nuclear facilities to steal valuable and highly dangerous components to manufacture a dirty bomb or homemade nuclear weapon.

The consequences of a terrorist attack that successfully breaches nuclear power plant containment and triggers a full scale core meltdown or breaches spent nuclear fuel storage casks would be disastrous. In a worst case scenario, this would release enough radioactive material to make entire communities uninhabitable for years, and cause significant injury and radiation-related cancers.

The Nuclear Regulatory Commission's (NRC) Design Basis Threat (DBT) regulations spell out the minimum design and operation requirements that plant operators must meet in order to provide basic protection against foreseeable terrorism risks. Following the terrorist attacks of September 11th, it became clear that these regulations needed to be modified to account for new realities. The NRC has, however, been slow to formally adopt new requirements, relying instead on more informal guidance to operators.

The NRC and the industry often minimize terrorist threats on the basis that a nuclear power plant is contained in a reinforced concrete dome. But the NRC itself has admitted that 1) the reactors aren't designed to withstand the impact of a large aircraft and 2) terrorists could attack the non-hardened parts of a reactor, such as the cooling or external electrical supply, and still achieve a core meltdown.

According to press reports from a simulated attack by an NRC team a few years ago, the team would have been able to cause a core melt at one nuclear power plant. At Vermont Yankee, another NRC team was able to scale plant fences undetected at several locations and slip a fake handgun past a plant security check. Numerous other problems have been found at other plants, including Seabrook, where an improperly installed perimeter intrusion detection system was inoperable for months.

In 2005, Congress passed legislation authored by Rep. Markey requiring the NRC to upgrade the DBT regulations after a public rulemaking. Unfortunately, a recent Government Accountability Office (GAO) report indicated that the process used to develop NRC's 2003 security Orders, which form the basis for their pending rulemaking, "created the appearance that changes were made based on what the industry considered reasonable and feasible to defend against rather than on an assessment of the terrorist threat itself." For example, the GAO report states that "following meetings with industry, the staff decided not to recommend including certain weapons in the list of adversary characteristics that nuclear power plants should be prepared to defend against." Moreover, the Commission subsequently chose to remove two of the weapons the staff did recommend. These weapons have been reported to be rocket-propelled grenades and 50-caliber rifles with armor-piercing rounds- both widely accepted as being modern weapons that would be

readily available to a terrorist group. Rep. Markey will continue his vigorous oversight of the NRC, and remains concerned that the Commission prioritizes the well-being of the nuclear industry above the safety of the communities it is charged with protecting.

Dirty Bombs

It is well known that Al Qaeda and similar terrorist organizations consider dirty bombs to be an ideal tool of terror, and so it is of the utmost importance that our nation secure nuclear materials.

In the United States alone, there are more than 2 million radioactive sources, and the NRC has admitted that it stopped tracking many of these by serial number in 1984. According to the NRC, there have been more than 1500 reports of lost or stolen radioactive materials in America over the past few years, and more than 50% of these cases remain unsolved.

Hundreds of these radioactive sources are irradiators, which are used at industrial food and medical irradiation/sterilization units, and at hospitals and research institutions. These units can contain up to several million Curies of radiation.

According to materials provided by the NRC, there are irradiators in 48 States, seven of which have more than 50 irradiators, and 17 States have at least one irradiator with more than 1 million Curies. In an April 15, 2002 letter to Rep. Markey, NRC Chairman Meserve stated that a dirty bomb containing a mere 1 Curie of radioactive materials could "spread low-level contamination over an area of several city blocks, possibly resulting in restriction of the area until the area was surveyed and decontaminated."

A conventional explosive could be hidden inside a shipment of food or medical equipment bound for an irradiation/sterilization facility, which might contain millions of Curies of radioactive Cobalt. Once inside, the bomb could be detonated remotely, blow a hole in the facility and disperse radioactive materials over a large area. There are currently no requirements to screen the shipments to ensure they don't contain conventional explosives.

The Federation of American Scientists modeled the detonation of a single rod of cobalt (these rods are typically 1 inch in diameter and a foot long) commonly found in food irradiation plants. This experiment resulted in the contamination of 1000 square kilometers, with a 10% risk of death from cancer for residents living inside a 300 city block area for 40 years following the detonation.

There are currently no regulations requiring U.S. Customs to screen every package entering the U.S. from abroad to ensure that it is not leaking radiation and there is no requirement for radiation detectors in vehicles used to deliver packages or in facilities used to store packages for shipment to or within the U.S. It is apparent that terrorists could use our own postal system or consignment carriers such as UPS or FedEx to ship radioactive materials to the U.S. for use in future attacks, just as the September 11 hijackers used our own flight schools to train for the attacks on the World Trade Center and the Pentagon.

In 2005, Congress passed legislation based on Congressman Markey's "Dirty Bomb Prevention Act." This law requires that the NRC issue regulations to improve coordination between the U.S. Customs and Border Protection (CBP) agency and the Nuclear Regulatory Commission (NRC). Whenever certain potentially dangerous radiation sources are imported into the United States, both agencies are now required to work together to determine whether the documents possessed by the importer are legitimate and if the recipient is authorized to possess the material.

However, the Congressman has been quite concerned about the NRC's implementation of other provisions of this legislation that call for the creation of a National Source Tracking System to ensure that the whereabouts of materials that could be used to construct a dirty bomb are known. Instead of promulgating these regulations in a manner that ensures federal implementation, enforcement, and oversight of the tracking system, the NRC instead has chosen to abdicate its responsibility and allow individual States to conduct these activities. Five states representing almost 30% of all radiation sources, including Massachusetts, opposed the NRC's decision.

Potassium Iodide

Potassium iodide, also known by its chemical formula "KI," is a safe and effective non-prescription medication. KI blocks the uptake of radioactive iodine by the thyroid gland, however, it does not protect a person or the thyroid from direct exposure to radiation that may be released in the event of a radiological emergency. One of the lessons of the nuclear accident at Chernobyl was that those nearby countries which had stockpiled KI were able to significantly reduce the incidence of thyroid cancer in children

Children under 14 years of age are most at risk from the effects of radioactive iodine on the thyroid gland. To be most effective, KI should be taken before or immediately after exposure to radioactive iodine.

In 2002, Congress adopted an amendment authored by Congressman Markey to the Public Health Security and Bioterrorism Preparedness and Response Act to double the radius for the distribution of potassium iodide tablets surrounding nuclear power plants. Congressman Markey's amendment increased the distribution range from 10 miles to 20 miles throughout the nation. Fulfillment of this plan requires presidential action.

However, current federal guidelines for state, local, and tribal governments to distribute, stockpile, and utilize potassium iodide have still not been released by the Department of Health and Human Services, and they are more than 3 years overdue.

The populations surrounding the nation's 104 currently operating reactors are not being adequately protected from releases of radiation that could result from reactor malfunction or a terrorist attack on a reactor.

ENCOURAGING CHANGE

Nuclear Reactor Security

After 911, the NRC issued Orders to upgrade security at nuclear reactors. These Orders were drafted behind closed doors with the nuclear industry, where no state or local officials, public interest groups, members of the public, or security experts, were allowed to participate at all. However, Congress has demanded that the NRC go beyond these classified orders. For example, in last year's Energy bill Congress adopted legislation sought by Rep. Markey that would require a formal rulemaking to upgrade the Design Basis Threat regulations. This amendment also requires realistic force-on-force security drills to ready nuclear facilities and prepare security teams against potential terrorist attacks. The bill also included new whistleblower protections to ensure that NRC contractors and employees feel safe bringing security concerns to the attention of their supervisors.

The NRC is now in the middle of this rulemaking process.
However, the draft NRC rules assume numerous unrealistic parameters for their Design Basis Threat. For example, the plans assume that terrorists won't have access to commonly available weaponry, won't use a truck bomb that is as big as what we've already seen utilized for terrorist attacks, won't include realistic insider threats, and won't include nearly as large a group of attackers as are assumed by the Design Basis Threat for Department of Energy nuclear facilities, or as large as the Al Qaeda group mobilized to carry out the 9/11 attacks.

Potassium Iodide

Congressman Markey has launched a long-standing campaign to protect children living near nuclear power plants from releases associated with accidents or acts of terrorism. In addition, Congressman Markey wrote President Bush, urging his Administration to move forward and issue final KI distribution guidelines. Congressman Markey has also written Governor Romney urging him to make KI available within the State of Massachusetts, since an effective KI distribution program can only be carried out with the cooperation of the state.

Dirty Bombs

Last year, Congressman Markey secured passage of an amendment to the Energy Bill that required a national tracking system for materials that could be used to make a dirty bomb in order to reduce the risk that terrorists could obtain these materials. In response to NRC resistance to implementing these regulations, Congressman Markey and Senator Clinton have sent a letter to the Chairman of the NRC, calling on the NRC to abide by the stricter standard set by the law and make controlling these nuclear materials the federal security priority this threat requires.

IMPACTING OUR COMMUNITY

Pilgrim, Seabrook and Vermont Yankee

The Pilgrim power plant is located in Plymouth, Massachusetts, and two others, the Vermont Yankee plant in Vermont and Seabrook Plant in New Hampshire, are located within a few miles of the state border.

More than a year ago, Congressman Markey raised concerns about reports that the perimeter intrusion detection system at Seabrook was inoperable. The NRC took six months to confirm the validity of this vulnerability, which was explained in detail in a classified document.

The NRC took another six months to finally issue a fine to the operators at Seabrook, which amounted to a mere $65,000.

Last July, the NRC proposed a $60,000 civil penalty for Entergy Nuclear Operations, Inc., for security violations that occurred when a supervisor fell asleep while on duty in the control room of the Pilgrim Reactor. It is clear that the NRC's practice of issuing fines is not enough to protect our homeland security.

Last August, Congressman Markey asked the NRC to examine scientific studies indicating that infant mortality increased significantly in 2002, after operating capacity at 104 nuclear power stations reached its highest levels. The Congressman's letter noted that a 2003 article by Joseph Mangano in *Archives of Environmental Health* found elevated levels of childhood cancers in populations living within 30 miles of nuclear power plants from 1988-1997. In Plymouth County, Massachusetts, there was a 14.6% increase in the number of childhood cancers as compared to the rest of the country. And in Essex County, Massachusetts and Rockingham County, New Hampshire, there was found to be a 24.8% increase in the number of childhood cancer mortalities.

Potassium Iodide (KI)

The Massachusetts Emergency Management Agency (MEMA) opposed expanding potassium iodide distribution plans from 10 miles to 20 miles away from nuclear power plants, as mandated by the 2002 Markey Amendment. Although the National Academy of Sciences has found that KI is needed to supplement emergency response plans that include sheltering and evacuation in response to a nuclear accident, MEMA continues to argue that sheltering and evacuation are sufficient.

The Romney Administration needs to abandon this misguided assumption. During a disaster such as a nuclear power plant accident or a release due to a terrorist act, the public will panic. When everyone tries to flee along evacuation routes at the same time, traffic will jam and the public will sit helplessly in their cars. If taken quickly following an accident, KI floods the thyroid gland with a harmless form of iodine, so that the radioactive iodine emitted during a nuclear reactor accident isn't absorbed into the body. This key safety measure must be adopted to empower our communities with an option for protection as an area is being evacuated.

For far too long, the Federal government has neglected its responsibility to secure our nation's liquefied natural gas (LNG) sector, which has an important role in the energy needs of communities around Massachusetts. For example, the Federal Energy Regulatory Commission (FERC) has not done its job to enforce provisions from the LNG Safety Act. This problem was highlighted in our community last month, when two people were spotted on surveillance tapes cutting through a fence and climbing to the top of an LNG storage tank in Lynn, prompting a call by Rep. Markey and subsequent agreement from Governor Romney to conduct a comprehensive security investigation.

FERC is not following the mandate in the 1979 LNG Safety Act, authored by Congressman Markey, which requires that all future LNG terminals be remotely located away from densely populated areas. In addition, last year's Energy Bill failed to give sufficiently clear legal authority to states, the Coast Guard, and Homeland Security regulators to block LNG terminals from being located in urban areas, such as Fall River, where an accident or an attack could result in significant loss of life and major property damage.

There are currently 5 operating onshore LNG importation terminals in the United States: one in Everett, MA; one in Cove Point, MD; one in Elba Island, GA; one in Lake Charles, LA; and one in Penuelas, Puerto Rico. In contrast, just 6 years ago, there were only 2 LNG terminals in operation -- Everett and Lake Charles. The Everett facility is the only urban LNG terminal of the five; the others are located in rural or remotely located areas. In addition to these sites, there is also one new offshore LNG terminal, the Excelerate Gulf Gateway Energy Bridge, which is operational in the Gulf of Mexico.

Interest in LNG terminals has never been stronger. At the time of this report, there were over 40 LNG terminals being proposed around the country. An additional 10 potential onshore and offshore LNG terminals have been identified by project sponsors, but not yet formally proposed for construction to FERC. Four proposals are pending in Massachusetts alone, including one in Fall River, one on Outer Brewster Island in Boston Harbor, and two on submersible platforms outside Boston Harbor.

FERC currently approves nearly every LNG terminal proposal that comes before it. In fact, the only rejection was for a site in Providence, Rhode Island. FERC reports that industry analysts believe only about 12 of the more than 40 proposed LNG terminals will likely ever be built.

ENCOURAGING CHANGE

Congressman Markey has been a vocal advocate for LNG security practices for years. In fact, he offered amendments to last year's Energy Policy Act that would have given states the same power to block LNG terminal construction and to prevent offshore LNG terminals from being built. Unfortunately, these amendments were defeated due to Republican and LNG industry opposition.

Congressman Markey has asked the Government Accountability Office (GAO) to undertake an investigation into LNG tanker security issues. As part of this report, GAO is looking at the Sandia National Laboratory study and other LNG safety and security reports, and will summarize what we know about the worst-case consequences of an attack, so that community leaders can make more informed decisions about how best to mitigate the potential safety impacts in and around Boston.

Currently, the only coordination for LNG security involves establishing security safeguards, not mitigating the consequences of a successful attack.. The Coast Guard has never held a drill or tabletop exercise with estimates based on the Sandia Lab results. In fact, the Coast Guard has conducted only one drill using industry experts, and this drill was far smaller than the model used by the Sandia Labs report.

The existing Environmental Impact Statement for the Everett Terminal, which was based on safety studies that were performed back in the 70s, should also be updated in light of the Sandia Labs report and the forthcoming GAO analysis.

The Sandia findings underscore the need to ensure that any future LNG terminal is situated remotely, as was required by the 1979 law, which was written by Congressman Markey.

IMPACTING OUR COMMUNITY

Our community encompasses a sizable LNG industry, which is currently vulnerable to terrorist exploitation. Further construction of LNG terminals in urban areas, such as the proposed terminals in Weaver's Cove and Fall River should not move forward. Instead, we should be looking at offshore alternatives, such as the two offshore LNG terminals recently approved for off the coast of Massachusetts.

Better regulations should also be developed to streamline the process of locating new LNG terminals so that homeland security perspectives can be considered and impact the approval process. These regulations should also require close coordination with state and local officials to ensure that location decisions aren't based on which company submits an application first, but which application best serves the region's future energy needs.

The Everett LNG Terminal

Everett is home to the Distrigas LNG facility, which is the only urban LNG importation terminal in the country. The Everett LNG terminal houses two huge LNG storage tanks with a combined capacity of 3.4 billion cubic feet, or 42 million gallons.

The Everett facility can vaporize approximately one billion cubic feet of LNG per day (i.e., turning it back into natural gas), and has throughput capacity of approximately 715 million cubic feet per day.

Some of this gas powers the two Mystic power plants in Everett, some is sold to local gas companies, like Boston Gas, and some of it is trucked out in LNG tanker trucks to other gas companies in the region. These LNG tanker ships pull into the facility roughly every 5-7 days.

The Everett facility has been in operation since 1971, and provides about 20% of all of the natural gas consumed in New England annually, and during the period of peak demand, Everett accounts for about 35% of all natural gas consumed in New England.

The Distrigas LNG facility, and the LNG tankers that pass through the facility on the way to Everett, represent a huge potential terrorist target due to the catastrophic damage that an attack could cause. That is why on 9/11, President Bush's then anti-terrorism czar, Richard Clarke, ordered the Coast Guard to temporarily block LNG tankers from entering into Boston Harbor.

The terrorism threats also lead the federal government to order a halt of LNG deliveries to Everett during the Democratic National Convention in Boston in 2004, which was designated as a "special national security event."

In nearly five years since 9/11, security at the Distrigas LNG terminal in Everett has greatly improved. There are more guards at the terminal, there is a stepped-up Coast Guard security escort for tankers as they transit through Boston Harbor, there are now vehicle barriers at the entrances to the Distrigas terminal, security cameras, and an enhanced police presence. All of these improvements are welcomed steps. Operators of the facility have been very responsive to concerns raised by Congressman Markey about security at the facility post 9/11.

Despite these improvements, there are serious limitations on what can be done to mitigate the worst-case consequences of an attack on an LNG tanker transiting through the densely populated urban areas along the waterfront in Boston and Everett.

Vulnerabilities and security risks are still present at these facilities. For example, to respond to a fire caused by an attack on the LNG terminal or one of its tankers, the Boston Fire Department would have to utilize its one large boat and one small boat. In addition, other assets, such as Massport's one large boat, would likely be called to act. However, due to the high radiant heat that would be produced by a large LNG pool fire, these boats would not be able to get closer than 2,000 feet from the fire. What's more, the boats really can't do very much to quell the flames. Ironically, spraying water at the fire actually makes it worse, by warming up the cryogenically cooled LNG, thereby assisting vaporization of the LNG and fueling the fire. According to the National Fire

Protection Association's handbook on LNG fires, "contact between water and pooled LNG should be avoided to prevent increased vaporization, unless vapor can be controlled."

In addition, Massachusetts area fire and police personnel do not receive training or readiness drills to address a large LNG tanker fire situation. Even the State's Fire Academy is only equipped with training facilities for smaller LNG fires, such as those that might occur as the result from a crash of an LNG tanker truck.

Sandia Lab Study Raises Security Concerns

Nearly two years ago, the Department of Energy's Sandia National Laboratory issued the first federally-funded study, which examined the full consequences of a terrorist attack against an LNG carrier vessel and based its models for plausible consequences of a terrorist attack on LNG tankers on information from the intelligence community.

The results of the Sandia study were sobering. Instead of holes as small as about 3 feet, Sandia said that the intentional hole size ranges up to 36 feet, with a 15 foot hole being their nominal case. At the same time, Sandia found that threats could include "multiple events and multiple containers damaged," which means that even an attack that causes a 15 foot hole could lead to a cascade of events that breaches 3 containers on the ship.

These facts confirm concerns that Congressman Markey had already raised with the Coast Guard about flammable foam insulation and the threat that a fire could spread to other containers and breach the containment of their cargo as well.

The Sandia study also largely dismissed some of the methods used by previous studies to shrink down the size of fire pools – such as the Quest study that was done of LNG attack consequences in Boston Harbor, which made absurd assumptions about wave effects, or in other studies funded by Suez that have argued that smoke effects would significantly reduce the radius of an LNG fire. The Sandia report discounts those theories as being assumptions that are speculative at best and certainly not good enough to provide any strong basis for making reductions in the assumed worst-case fire.

Sandia says that in the worse case, we could see a radius of up to 1900 feet subject to levels of heat and fire that would burn buildings, and damage steel tanks and machinery, while a radius of up to over a mile could be exposed to levels of heat that would cause second degree burns (blistering) within 30 seconds.

Because the Everett LNG terminal is in such a narrow ship channel, such levels of fire and heat pose a very serious risk to public safety. The size of the fire that could occur would be on a scale unlike anything that Boston has ever experienced. According to the Sandia Report, the fire could be several hundred feet across and several hundred feet high.

Furthermore, the consequences of such a fire could be catastrophic, with a death toll rivaling that of the 9/11 attacks in New York and Washington, DC. The 1976 Environmental Impact Statement for the Everett Facility estimated some 2,500 fatalities from an LNG pool fire, while the most recent study for Fall River estimated 3,000 fatalities from an LNG pool fire.

In addition to those deaths, thousands more could be subjected to severe burns, and buildings as far as 1500-2000 feet away could be at risk for serious damage.

Nearly two years after Madrid's rail systems were attacked by terrorists, and a year after similar attacks were carried out against London's mass transit system, America's public transit systems remain vulnerable.

After the bombings, Congress called on the Administration to move quickly to reinforce our nation's mass transit systems to prevent such an attack from happening here. In the Intelligence Reform and Terrorism Prevention Act of 2004, the Congress called for the government to develop a National Strategy for Transportation Security to be completed by April 2005.

The report was not only several months overdue, but it was ultimately submitted in classified format, which is inaccessible to the community and private sector transit operators in America for whomh it was intended. This strategy was supposed to be a much needed first step toward reducing the vulnerability of public transportation elements, but instead, the Department of Homeland Security (DHS) and its Transportation Security Administration (TSA) missed the mark.

In addition, the DHS and TSA continue to focus almost exclusively on aviation security, spending, on average, $9 per air passenger, as compared to only one penny per rail/mass transit security passenger. In spite of this disproportionate spending, security has not been fully realized in the air, as critical vulnerabilities such as a lack of cargo inspection threaten air safety (please see Aviation Security section).

This Administration has neglected America's public transportation systems for far too long. If history is any guide, it is only a matter of time before this bureaucratic failure has catastrophic consequences for Americans, who depend on public transportation 32 million times every day, more than 16 times the amount they fly daily.

ENCOURAGING CHANGE

In order to move towards securing our public transit systems, this Administration must identify the Transportation Security Administration, a single entity, as the coordinator for national rail and mass transit security. According to the TSA's mission statement, this tasking should come as no surprise. Having one entity at the helm of the nation's transit security efforts will also enhance the cooperation necessary between the public and private sectors that share responsibilities for rail and mass transit in our communities.

In addition to clarifying the roles and responsibilities for those involved with transit security, it is equally important to involve labor organizations who represent the employees likely to be first responders in the event of a terror attack.

Require TSA to Complete a National Rail and Mass Transit Security Strategy

A report published this month by the Committee on Homeland Security, at Congressman Markey's request, identified a number of steps that the TSA must complete in order to fully develop the National Rail and Mass Transit Security Strategy that was due in April 2005. Among the many suggestions, the report found that the TSA must:

-Clearly establish roles and responsibilities for the various Federal Departments and agencies involved in rail and mass transit security;

-Clearly lay out the relationship between the Federal government and its stakeholders, including state, local, and tribal officials and representatives from the private sector and labor organizations;

-Establish measurable goals and milestones that the TSA and other Agencies and Departments with a role in rail and mass transit security must meet;

-Mandate security plans which are reviewed, approved, and enforced by TSA;

-And mandate vulnerability assessments, training, and exercises for rail and mass transit systems.

Congressman Markey also believes strongly that weak governance undermines comprehensive security. Following this thread, our communities can no longer afford to wait for voluntary security assessments to be conducted by public transit utilities. Instead, the government, through the TSA, must mandate security protocols and assessments, which they will review and approve. The necessary training, testing, and drilling would then follow to assure real preparedness and readiness.

Develop and Enforce a Baseline of Security

The Committee report also found that the TSA should follow the Government Accountability Office recommendation to develop security regulations that can be legally enforced. These regulations would mandate civil penalties, similar to those imposed on the maritime side, for systems that do not comply with established regulations.

IMPACTING OUR COMMUNITY

Mass transit systems, including MBTA, are chronically underfunded. It should not be surprising that when a new and burdensome responsibility is imposed, such as hardening the systems against terrorism, critical needs quickly mount.

To date, the majority of MBTA homeland security funds have been spent on establishing a redundant communications and operations system – a wide area network – that will serve as the backbone for the MBTA electronic security platform.

The next step at the MBTA is to acquire and deploy chemical and biological sensors in sufficient numbers to accommodate the system.

Moreover, additional personnel are needed to provide security for critical infrastructure and to operate and monitor security equipment.

Shipments of extremely hazardous materials such as chlorine routinely travel through densely populated areas, largely unprotected. These shipments enable business processes, construction, and research, but these shipments can also be used as mobile chemical weapons that often share the same track as urban passenger rail systems or the same highways as our cars, and could kill or injure 100,000 people within half an hour of a leak or exposure.

Sadly, the government is doing far too little to secure our nation's hazmat routes, the chemical ingredients, or even the transportation modes and vehicles. The Transportation Security Administration has conducted security assessments of High Threat Urban Areas (HTUAs), where teams of experts have studied the risks and likely results from exposures to toxic-by-inhalation (TIH) hazardous materials being transported by rail. While the teams have developed assessments for 5 major cities, not including Boston, there is no requirement for rail or other transit systems to use the information that has been gathered by the government.

In another instance, this Administration, through the TSA, has acknowledged that an accidental or intentional release of large quantities of TIH materials by rail in the proximity of large population areas could cause significant numbers of fatalities and injuries. The TSA also noted that these situations should warrant special security considerations. Yet in the very same document, TSA stated that all the special security considerations listed are voluntary.

In the nation's capitol, the City Council of Washington, D.C. recently passed a ban prohibiting the transportation of hazardous material through the city and other cities have considered similar bans including Philadelphia, Cleveland, Chicago, Baltimore, and even our own Boston. But even though some estimates have indicated that the total amount of shipments that will require re-routing is likely less than 1% of all rail shipments, and even though re-routing is regularly required during special events such as the State of the Union, these bans are being fought by industry, rail lobbies and the Bush Administration.

Even more remarkably, while the Bush Administration has never conducted an economic analysis associated with requiring the rail industry to immediately begin re-routing toxic shipments around Washington DC (or other population centers), it has spent $1 million to assess the viability of re-locating the entire DC-area freight rail-line at a projected cost (presumably to the taxpayers) of more than $1 billion. This option would also take many years to complete.

ENCOURAGING CHANGE

This Administration has failed to adequately protect our communities from the safety risks posed by hazardous material transport in heavily populated neighborhoods.

Congressman Markey has long advocated that the federal government, through the Transportation Security Administration, has the power to enforce rules and regulations for special safety industries like the transporters of hazardous materials. In the past two Congresses, he has also introduced the "Extremely Hazardous Materials Transportation Security Act," which requires additional security measures and training for industry personnel, emergency response planning and coordination, and re-routing of extremely hazardous materials shipments around densely populated areas and other areas of concern when a safer route exists. Congressman Markey has also offered this legislation in amendment form to legislation considered by the Homeland Security Committee and the full House of Representatives, but it always faces intense opposition by both the industry and many Congressional Republicans.

Regulatory authority is one avenue for enhancing industry security to protect our communities, and the enforcement responsibility is the necessary control to ensure tight adherence to these rules and the best protection for our homes and families.

But even beyond the power to regulate this industry, the government can take other steps to improve this dangerous situation.

Congressman Markey has spent time talking with hazmat drivers and transporters who have told him about the inadequate training they receive relating to the materials they work with on a daily basis.

In the absence of federal action, the George Meany Campus at the National Labor College has also developed courses such as the Rail Workers Hazardous Materials Training Program to fill the void. Since 1990, this hazardous materials training has been provided to nearly 20,000 rail workers from seven rail unions affiliated with the training program.

When it comes to our homeland security, these vital training sessions and security procedures should not be outsourced and pushed off, but rather developed further and incorporated into regulated training and safety awareness campaigns to better prepare industry employees and better protect our cities.

IMPACTING OUR COMMUNITY

It can happen anywhere

On April 14, 2004 a 49-foot railroad tanker car carrying 20,000 gallons of hydrochloric acid sprung a leak, which caused an acidic mist to plume from the tanker car. According to a Boston Globe report that ran the following day, the leak was first noticed near the Sullivan Station in Charlestown, which is located on the Orange Line just outside of Somerville. Anyone familiar with this area knows full well that in addition to being nearby the heavily populated Somerville area, the tracks are also located in close proximity to the southbound lanes of the interstate.

In addition, Bostonians heard much debate over the delay and rerouting of Hazardous Material transports during the 2004 Democratic National Convention in Boston. The Secret Service, as the lead federal law enforcement entity charged with coordinating this "special national security event," put the safety of those attending the convention above the most convenient route for doing business.

It shouldn't take a gathering of Members of Congress and Senators to require adequate safety for residents of Greater Boston and major cities around the United States. We must develop real safety and security principles for the transporting of hazardous materials that protect our communities as much as we have been protecting the hazmat industry.