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**Federal Policy Responses to the 9/11 Attacks: An assessment of the policy making process since September 11, 2001.**

A Thesis

Presented to the

McAnulty College and Graduate School of Liberal Arts

Duquesne University

in partial fulfillment of

the requirements for the degree of

Master of Arts

by

Ian J. Harlow

3/22/06



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## II. Executive Summary

Directly following the September 11, 2001 attacks, the United States government initiated a self study to determine how it could better prevent, prepare for, and respond to terrorist attacks within its borders. After only a short time, the public policy response began to occur. Many bills were introduced into the House and the Senate aimed at correcting the problems that were identified involving homeland security. The main question that this research attempts to address is if the United States government's public policy response, through public laws, was adequate and appropriate to address the threat of a terrorist attack on the United States involving nuclear weapons.

The first portion of the research focuses on the threat of nuclear terrorism and the outcome of an attack on the United States, as well as the most likely origins of an attack. The research indicates that a terrorist organization would most likely acquire a nuclear weapon or material from the former Soviet Union, Pakistan, Iran or North Korea. The countries that once made up the Soviet Union have the largest stockpile of nuclear weapons or materials; however Pakistan or Iran would be far more sympathetic to the cause of a terrorist organization. North Korea provides its own unique direct threat to the security of the United States. The research has indicated that the most likely method, as well as the most lightly protected, of transportation for a weapon or materials is through containerized cargo entering into the United States through one of its 361 seaports. In addition, the research indicated that a nuclear attack on a major metropolitan area, such as Washington DC, would be devastating in terms of loss of life and economic consequences.

The second portion of the research focuses on the policy responses and public laws that have been adopted since 9/11 to address the threat of nuclear terrorism. A comprehensive directory of the public laws enacted from September 11, 2001 until January 1, 2005 dealing with nuclear terrorism was created. The directory was generated by searching by **subject** and **date** using THOMAS and identifying listings in the Congressional Quarterly Almanac index. The research identified thirty-seven public laws that were passed from September 11, 2001 until January 1, 2005. After further analysis, eight were examined in detail.

- USA Patriot Act Of 2001
- The Aviation and Transportation Security Act of 2001
- Public Health Security and Bioterrorism Preparedness and Response Act of 2002
- Enhanced Border Security and Visa Entry Reform Act of 2002
- The Maritime Transportation Security Act of 2002
- The Homeland Security Act of 2002
- Project BioShield Act of 2004
- Intelligence Reform and Terrorism Prevention Act of 2004

The third phase of the research was an examination of the public laws themselves. The public laws were systematically analyzed to determine if they were appropriate, reasonable, and relevant to threat of nuclear terrorism based on three separate factors. These factors included prevention and deterrence, protection, and response.

Several key points were identified as a result of the research:

- The public laws that were adopted since September 11, 2001 are reactive rather than proactive in nature.
- The research did not identify any significant measures that were adopted since September 11, 2001 to deter or prevent nuclear terrorism. However, several public laws did contain provisions that dealt with response to a nuclear attack.

- The public laws that were adopted since September 11, 2001 are extremely vague in defining many of the country's homeland security strategies.
- In some cases, the public laws that were adopted since September 11, 2001 add additional layers to the bureaucracy surrounding homeland security, thus further complicating many of the problems identified since the attacks.
- While the public laws that were adopted since September 11, 2001 make progress in securing the nation's borders and ports by providing additional resources and personnel, weak security practices are still evident at many of these facilities.
- In some instances, the funding for various missions was limited and was not sufficient to accomplish specific goals and objectives.
- Technologically advanced screening capabilities used to detect radioactive or nuclear materials either in ports at home or abroad are costly and limited in scope. In addition, the US government must engage in negotiations with foreign governments before the technologies can be installed which is sometimes ineffective.
- There have not been any public laws passed since September 11, 2001 specifically tasked with securing air cargo transported throughout the civil aviation system of the United States.
- The Nunn – Lugar Cooperative Threat Reduction Program, which has been effective in dealing with Russian proliferation issues, has had its funding reduced in the years following September 11, 2001.
- A layered approach to homeland security should be adopted and better utilized in order to secure the United States from attacks involving nuclear weapons and materials originating from outside its borders.

The evidence obtained through this research indicates that the United States government's public policy response, through public laws, was not adequate and appropriate to address the threat of a terrorist attack on the United States involving nuclear weapons. While the public laws did not incorporate many provisions that served as a deterrence to an attack or protection from an attack, the public laws did vaguely address the response to an attack involving nuclear weapons. The United States government has failed to address the threat of nuclear terrorism.



### III. Introduction

Many challenges exist involving the United States' counterterrorism policy. The events of 9/11 have demonstrated vulnerabilities in the country's counterterrorism operations and policies. The 9/11 Commission, as well as the other commissions, have conducted in-depth analyses of the pre-9/11 environment and have recommended the implementation of various types of policy to better address the security needs of the United States regarding terrorism. Of the recommendations that have been made, many are being implemented slowly, if at all. While it is evident that the United States is taking steps to address its security needs, it is not clear if the policies systematically address the threats and vulnerabilities identified since 9/11. Furthermore, there is no evidence suggesting that these policies are effective. Recent analysis suggests that there are significant flaws within various aspects of homeland security.

The attacks of 9/11 demonstrated that the United States was vulnerable to outside terrorist threats. In the months following the disaster, the United States government took very serious action to identify and neutralize the vulnerabilities that existed to its national security. Members of Congress and the President created the National Commission on Terrorist Attacks Upon the United States, also known as the 9/11 Commission, on November 27, 2002<sup>1</sup> to determine where the vulnerabilities were and what actions should be taken to address them. The 9/11 Commission concluded, after more than eighteen months of investigation, that the institutions that were charged with protecting our borders, civil aviation, and national security did not understand how grave the threat of terrorism could be and, therefore, had not adjusted their policies, plans, and practices to

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<sup>1</sup> "The 9/11 Commission Report." W.W. Norton & Company. New York. 2004. pg. xvi

deter it.<sup>2</sup> The 9/11 Commission made forty-one recommendations for policy to Congress and the President as a result of its investigation. The recommendations encompassed a broad range of issues.

Other commissions, groups, and individuals have made recommendations regarding terrorism. The Gilmore Commission which released its final report on December 15, 2003, acknowledged that progress has been made; however, more still remains to be done. Some of its key recommendations include: a consistent commitment of resources to respond to and recover from a full range of threats, a standardized process to share information and intelligence, strong levels of preparedness and readiness across state, local, and private sectors, better engagement of the academic, business, and government communities for rapidly developing, and implementing research and development standards, and finally, protection of the nation's critical infrastructure.<sup>3</sup>

The Hart Rudman Commission's final report also addressed vulnerabilities regarding terrorism. The final report was issued on January 31, 2001. The intention of the commission was to make recommendations that addressed the post Cold War security environment. The commission suggested that the federal government must ensure the security of the American homeland, recapitalize America's strengths in science and education, redesign key institutions of the Executive Branch, overhaul the U.S. government personnel system, and reorganize Congress's role in national security affairs.<sup>4</sup> Both the Gilmore Commission and the Hart Rubman Commission revealed problems in the United States counterterrorism policy before the 9/11 attacks.

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<sup>2</sup> Ibid

<sup>3</sup> "The Gilmore Commission Final Report." Washington, DC. 2003.

<sup>4</sup> "The Hart Rubman Commission Final Report." Washington, DC. 2001.

Several programs and initiatives were implemented before September 11, 2001 to deal with proliferation issues. These programs have had great success in limiting proliferation risks with minimal costs. The Nunn–Lugar Cooperative Threat Reduction Program, which has been effective in dealing with Russian proliferation issues, was created in 1991. To date, the Nunn – Lugar initiative has deactivated or destroyed: 6,760 nuclear warheads, 587 ICBMs, 483 ICBM silos, 32 ICBM mobile missile launchers, 150 bombers, 789 nuclear air-to-surface missiles, 436 submarine missile launchers, 549 submarine launched missiles, 28 nuclear submarines, and 194 nuclear test tunnels.<sup>5</sup> The success rate of the initiative, as well as its low costs, makes it an ideal and useful tool in the Global War on Terror.

The purpose of this research is to determine if the United States government’s policy responses have been adequate and appropriate to the national security threats that have been identified since the 9/11 attacks. Specifically, I have investigated the threats that have been revealed as a result of the self-study by the United States government, which was implemented due to the attacks on September 11, 2001. I then identified and categorized the public laws and policy changes that were made as a result of the self-study. Finally, I systematically tested whether the policy response was appropriate, reasonable, and relevant to the threat of nuclear terrorism.

The evidence suggests that there is significant room for improvement in the counterterrorism practices of the United States government. In addition, there has not been a comprehensive examination of the policy response to 9/11. It will take a great deal of cooperation and funding to accomplish these broader goals. It is therefore imperative

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<sup>5</sup> Nunn-Lugar Report. August 2005. Available at: [http://lugar.senate.gov/reports/Nunn-Lugar\\_Report\\_2005.pdf](http://lugar.senate.gov/reports/Nunn-Lugar_Report_2005.pdf)

that a careful analysis of the types of threats and vulnerabilities be done in order to use scarce government resources more effectively and efficiently to secure United States from further terrorist attacks.

## IV. Literature Review

In a recently released report by 9/11 Public Discourse Project, formally known as National Commission on Terrorist Attacks Upon the United States, Chairman Thomas H. Kean and Vice Chair Lee H. Hamilton released a prepared statement. In the statement they argued, "It is scandalous that we still allocate homeland security dollars on the basis of pork barrel spending, not risk."<sup>6</sup> This statement, as well as their final report, identifies significant gaps in homeland security. The report concluded that "Congress has still not changed the underlying statutory authority for homeland security grants, or benchmarks to insure that funds are used wisely. As a result, homeland security funds continue to be distributed without regard for risk, vulnerability, or the consequences of an attack, diluting the national security benefits of this important program."<sup>7</sup>

Of the forty-one recommendations that the National Commission on Terrorist Attacks Upon the United States released in their final report on July 22, 2004, only thirteen are considered to be adequately addressed. The federal government is not moving as fast as it had indicated it would in regard to the recommendations. On July 23, 2004, House Speaker Dennis Hastert and House Majority Leader Tom DeLay assured Americans that the House of Representatives would "immediately assess everything we have done in this regard since 9/11 and everything more we need to do."<sup>8</sup> They went on to say in a joint statement that "We have therefore directed our appropriate committees to examine the commission's recommendations, begin hearings in August, and report back

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<sup>6</sup> Kean, Thomas. "Prepared statement on the Final Report on 9/11 Commission Recommendations." December 5, 2005.

<sup>7</sup> "Final Report on 9/11 Commission Recommendations." 2005.

<sup>8</sup> Bash, Dana. "White House forms task force to study 9/11 findings."

<http://www.cnn.com/2004/ALLPOLITICS/07/23/911.congress/index.html>. Accessed December 22, 2005.

to us with recommendations for specific legislation in September including specific proposals that we will consider before Congress adjourns.”<sup>9</sup> Each said that they hoped to have a bill drafted by October 1, 2004.<sup>10</sup>

Additionally, vulnerabilities remain domestically while an aggressive war is waged on terrorists abroad. Stephen E. Flynn, a Senior Fellow in National Security Studies at the Council on Foreign Relations argues that “the Bush administration has waged an aggressive war against terrorists abroad, but it has neglected to protect the homeland, even though Americans in the United States are the ones most vulnerable to future attacks.”<sup>11</sup> Specific vulnerabilities include lax security at chemical facilities, limited security for mass transit and sea ports, an unprotected infrastructure, and porous borders.

While homeland security spending has more than doubled since 9/11, analysis suggests that the funds are not being spent or allocated wisely. In the recent paper *What Does Homeland Security Spending Buy?*, Veronique de Rugy argues that “homeland security spending was increased by roughly 200 percent since FY2001.”<sup>12</sup> Not surprisingly, very little was spent before September 11, 2001 on homeland security related activities. An estimate shows that spending increased slightly from approximately \$9 billion or .5% of the total budget of \$1,516 billion in FY1995<sup>13</sup> to approximately \$13

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9 Ibid

10 Ibid

11 Flynn, Stephen E. “The Neglected Home Front.” *Foreign Affairs*, September/October 2004.

12 De Rugy, Veronica. “What Does Homeland Security Spending Buy?” American Enterprise Institute for Public Policy Research. Washington, DC. 2004. Page 1.

13 “Historical Tables of the Budget of the United States, FY2005.” Available at:

<http://www.whitehouse.gov/omb/budget/fy2005/pdf/hist.pdf>. Accessed: December 10, 2005.

billion or .7% of the total budget of \$1,789 billion in FY2000<sup>14</sup>. The dramatic increase in spending occurred from 2001 to the present. Spending increased from \$16.9 billion or 1% of the total budget of \$1,864 billion in FY2001<sup>15</sup> to more than \$49.9 billion (estimate) or .5% of the estimated budget of \$1,516 billion in FY2006. This equates to approximately a 195 percent increase over that period. Trends show that growth will likely continue. However, most homeland security funding is allocated on a political basis rather than a sound cost-benefit analysis. For example, the FY 2004 Homeland Security spending bill allocated \$2,000,000 to the Great Lakes Region to purchase an Icebreaker so that commercial ships can travel through the lakes during the winter months.<sup>16</sup> In addition, according to the Citizens Against Government Waste, the FY 2004 Homeland Security spending bill contained 18 wasteful items amounting to \$423 million.<sup>17</sup> De Rugy concludes that much of the new spending will not result in sound security.<sup>18</sup> As a result, homeland security funding is likely to be misallocated, resulting in a less than optimal level of security in America.<sup>19</sup>

In addition to the difficulty associated with the method in which funds are allocated, the political interests of some politicians have become as important as the security needs of the United States. Richard Falkenrath, a fellow at the Brookings Institution and a CNN security analyst, suggests that the recommendation by the 9/11 Commission to distribute federal homeland security grants based on risk, rather than a

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14 Ibid

15 Ibid

16 De Rugy, Veronica. "What Does Homeland Security Spending Buy?" American Enterprise Institute for Public Policy Research. Washington, DC. 2004. Page 32.

17 Citizens Against Government Waste, Pig Book, April 8, 2004

18 De Rugy, Veronica. "What Does Homeland Security Spending Buy?" American Enterprise Institute for Public Policy Research. Washington, DC. 2004. Page 1

19 Ibid

politically derived formula, is not being fully implemented. He argues that this is because a handful of small-state senators in key positions do not want to allow a reduction in federal resources to their constituents.<sup>20</sup> Currently, funding is not distributed on per capita basis; therefore, small states such as Rhode Island receive more funding for homeland security per capita than larger more populated states, such as Pennsylvania. Data from the FY2004 Homeland Security Grant program shows that the state of Rhode Island, which is small and contains very few high value targets, received approximately \$20.00 per capita.<sup>21</sup> New York, having a larger population and land mass as well as many more high value targets, received only \$5.41 per capita during the same time frame.<sup>22</sup>

Brian D. Finlay is a Senior Associate at the Henry L. Stimson Center in Washington, D.C., where he specializes on issues of nuclear and biological non-proliferation and threat reduction. Finlay concludes that there are currently enough weapons grade materials in Russia that are vulnerable to theft to make numerous weapons. He goes on to argue that Al Qaeda and other terrorist organizations have stated their intent to acquire a nuclear device. Therefore, the weapons grade materials that are located in the former Soviet Union are an available and an inviting target for criminal organizations. Finlay has concluded that the United States government has made discrete but noteworthy progress in securing vulnerable weapons, expertise, and

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<sup>20</sup> Falkenrath, Richard A. Testimony before the United States Senate Committee on Homeland Security and Governmental Affairs. April 27, 2005.

<sup>21</sup> De Rugy, Veronica. "What Does Homeland Security Spending Buy?" American Enterprise Institute for Public Policy Research. Washington, DC. 2004. Page 17.

<sup>22</sup> Ibid.



materials in Russia. In addition, Finlay argues that the United States has taken steps to strengthen the global capacity for identifying and intercepting shipments of WMD.

However, he argues that, overall, the Bush Administration and Congress have neither achieved nor made substantial progress with most of the strategic objectives identified by the bipartisan task force that was lead by Senator Howard Baker in 2001. Of the nineteen measures, only five have seen progress toward implementation. The task force concluded that “the most urgent unmet national security threat to the United States today is the danger that weapons of mass destruction or weapons-usable material in Russia could be stolen and sold to terrorists or hostile nation states and used against American troops abroad or citizens at home.”<sup>23</sup> Finlay concludes, in his report, that “the proven cost-effectiveness of threat reduction programs, combined with the urgency of the threat, makes it imperative that the United States government overcome the necessary obstacles to accelerate the programs.”

According to the Lugar Survey on Proliferation Threats and Responses published in June of 2005, the possibility of an attack on the United States using nuclear weapons or any other weapon of mass destruction is increasing. “The median estimate of the risk of a nuclear attack during the next 5 years was 10%. The average estimate was 16.4%.”<sup>24</sup> The risk associated with an attack more than doubled if the time frame was increased to ten years. Furthermore, a strong consensus indicates that if a nuclear attack does occur, more experts believe that it will be done by a terrorist group, not a state actor.

“Underscoring the need to safeguard and account for all nuclear weapons and material,

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<sup>23</sup> The Secretary of Energy Advisory Board, United States Department of Energy, A Report Card on the Department of Energy’s Nonproliferation Programs with Russia, p.iii (January 2001), available at <http://www.stimson.org/ctr/?SN=CT20050720884> hereinafter “Baker-Cutler Task Force.”]

<sup>24</sup> Lugar, Richard. “The Lugar Survey on Proliferation Threats and Responses.” US Senate. June 2005. Page 14. Available at: <http://lugar.senate.gov/reports/NPSurvey.pdf>

almost 79% of respondents (67 of 85) said that if a nuclear attack occurs during the next ten years, it is more likely to be carried out by a terrorist group than by a government.”<sup>25</sup>

Additionally, the survey attempted to determine the most likely method of acquisition for a terrorist organization to acquire nuclear materials or weapons. According to the survey, a black market purchase was the most likely means through which terrorists would acquire nuclear weapons or weapons grade material. About three quarters (63 of 83) of respondents selected “black market purchase” either exclusively or in combination with one of the other responses. The probability that a current nuclear weapons state might deliberately transfer nuclear weapons or materials directly to a terrorist organization was seen as the least likely method or approximately less than 10%. This analysis indicates that the likelihood of nuclear attack is greater now than it has been in the past and that there is greater likelihood that a terrorist organization will acquire the weapons through theft. This is significant because if a terrorist organization were to acquire a nuclear weapon or nuclear material the likelihood that they would use it against a target in United States is significant.

The literature review indicates that the pre-9/11 security environment was inadequate to defend against the emerging terrorist threats. Furthermore, several government studies have indicated the need for improved security practices and often have recommended several key changes. One author has argued that the United States has waged an aggressive war abroad, while neglecting the home front. The literature review also indicates that much vulnerability still exists in the United States well after the attacks of September 11, 2001. In addition, the literature suggests that funds are not

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<sup>25</sup> Ibid. page 15

allocated by a risk based analysis but rather by what some would call a politically derived formula. The literature also suggests that the most likely source for nuclear materials or weapons is in the countries that once made up the Soviet Union. Additionally, the likelihood of an attack involving a terrorist organization and a nuclear weapon has increased over the last ten years and will increase in the years to come. In conclusion, the United State's homeland security practices are deficient in some areas, including protection from an attack involving nuclear weapons. The countries of the former Soviet Union, as well as North Korea, Iran and Pakistan are all likely places for a terror organization to gain the necessary materials or weapons for such an attack. The loss of human life and the economic implications from a terrorist attack using nuclear weapons would be disastrous.

## V. Methodology

The first portion of my research discusses the threat of nuclear terrorism and the outcome of an attack on the United States. I first describe the threat of nuclear terrorism and briefly discuss proliferation issues. Specifically, the research presents evidence of the ambitions of Al Qaeda and its leadership to acquire weapons of mass destruction, particularly nuclear weapons. In addition, the research discusses the possible origins of nuclear fissile materials or nuclear weapons. In particular, the research discusses the countries of the former Soviet Union, Iran, North Korea, and Pakistan. However, the main focus of this portion of the analysis is on the former Soviet Union because of its vast terrain, high numbers of weapons facilities, and a limited security budget. Furthermore, the research examines the possibility of a terrorist or a terrorist organization smuggling nuclear materials or a nuclear device into the United States. This section of research concludes with the discussion of several scenarios of attack involving nuclear weapons on the Washington DC metro area. The first portion of research focuses on the description of the threat, the individuals or organizations most likely to carry out an attack, the acquisition of material that are necessary for an attack, the transportation of the materials, and finally the attack itself.

The second portion of the research focuses on the policy responses and public laws that have been adopted since 9/11 to address the threat of nuclear terrorism. A comprehensive directory of the public laws enacted from September 11, 2001 until January 1, 2005 dealing with nuclear terrorism was created. The directory was generated by searching by **subject** and **date** using THOMAS and identifying listings in the Congressional Quarterly Almanac index. THOMAS is the Library of Congress's

legislative database. According to THOMAS, subject terms were created by legislative analysts from the Congressional Research Service (CRS) of the Library of Congress. Analysts closely examine the content of each bill and resolution and assign (index) as many subject terms as are required to describe the measure's substance and effects. Terms appearing in the subjects display come from a list that is based upon the CRS Legislative Indexing Vocabulary (LIV), a thesaurus developed to classify public policy subject matter. The terms that were used in the identification process were nuclear weapons, nuclear terrorism, and nuclear proliferation. The Congressional Quarterly Almanac index was also used as a search mechanism for additional public laws that may not have been identified by the earlier analysis. The terms homeland security, terrorism, and nuclear weapons were used for this portion of the analysis. The policy responses to nuclear terrorism were then categorized according to the Congress that passed the measures and then by the year the measures were enacted.

The third phase of the research was an examination of the public laws themselves. I systematically analyzed the public laws that were identified to determine if they were appropriate, reasonable, and relevant to threat of nuclear terrorism by three separate factors. I first examined the law to determine if preventative in nature. Prevention is defined as the detection, deterrence, or mitigation of threats to the United States. The second factor that I used to examine the law was based on its protective qualities. Protection is defined as the safeguarding of the citizens critical infrastructure, property and the economy of the United States from acts of terrorism, natural disasters, or other emergencies. The third criteria I used for examining the laws were the measures that dealt with the response to an attack or an event. Response is defined as the management and

coordination of a national response to acts of terrorism, natural disasters, or other emergencies. Finally, I described any other benefits that were gained from the passage of the law. These four criteria were chosen because they are included in the strategic goals of the Department of Homeland Security. In conclusion, the goal of this research is to determine, by examining those four criteria, if the United States government's policy responses have been adequate and appropriate to the national security threat of nuclear terrorism that has been identified since the 9/11 attacks.

## **VI. The Threat of Nuclear Terrorism**

The most urgent and unmet national security threat to the United States today is the danger that weapons of mass destruction or weapons-usable material in Russia could be stolen and sold to terrorists or hostile nation states and used against American troops abroad or citizens at home.<sup>26</sup> While there are many possible methods of attack, nuclear weapons pose one of the gravest threats to the national security of the United States. An attack involving a nuclear weapon would create an un-measurable economic impact as well as a considerable loss of life. Evidence suggests that Al Qaeda is both capable and willing to use nuclear weapons against the United States. This threat will most likely originate from materials or a device obtained from the former Soviet Union, Pakistan, Iran, or North Korea.

Plutonium and highly enriched uranium (HEU) are the main components of any nuclear device. The plutonium and HEU in the U.S. weapons stockpile is subject to strict controls and high standards of accounting. However, other countries that possess nuclear weapons or materials have not placed the same emphasis on securing their weapons and materials. This is where the real problem lies. It is in these areas that the theft or sale of nuclear materials or weapons is most likely to occur. While security has been substantially improved since the Soviet collapse, nuclear security budgets remain inadequate to effectively provide security for nuclear sites in the former Soviet Union. In addition, states like Pakistan and India may also be willing to provide nuclear materials or devices to individuals or groups with whom they are sympathetic.

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<sup>26</sup> The Secretary of Energy Advisory Board, United States Department of Energy, A Report Card on the Department of Energy's Nonproliferation Programs with Russia, p.iii (January 2001), available at <http://www.stimson.org/ctr/?SN=CT20050720884>

Furthermore, evidence suggests that the security practices that the United States has implemented to prevent or deter such items from passing through its borders are minimal at best. In addition, a nuclear attack on a major US metropolitan area could cause more than 150,000 fatalities. In summation, evidence suggests a well-organized and well-financed group, such as Al Qaeda, would be able to construct a crude nuclear explosive if they were able to acquire the needed material, and had the time and resources to devote to the task. Without question, Al Qaeda or one of its affiliates would be willing to use an improvised nuclear device to attack the United States or American interests abroad if it were able to acquire such a weapon.

### **Al Qaeda's ambitions for nuclear weapons and materials**

Evidence suggests that Al Qaeda is actively seeking nuclear weapons and other weapons of mass destruction. With thousands of new Al Qaeda recruits, new fields of operation, a destabilized Middle East and weakened alliances, the danger that a terrorist group could get a nuclear weapon from one of the poorly guarded warehouses in Russia or from a sympathetic military commander in Pakistan or any other sympathetic country has never been greater.<sup>27</sup>

Al Qaeda has the motivation, financial means, and physical security to pursue an acquisition program to gain nuclear materials.<sup>28</sup> In December 1998, Osama bin Laden, who that summer had orchestrated attacks on U.S. embassies in Kenya and Tanzania, declared it a “religious duty” to acquire nuclear weapons and threaten the United States

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<sup>27</sup> <http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=15813&proj=znpp>

<sup>28</sup> Sara Daly, John Parachini, William Rosenau, “Aum Shinrikyo, Al Qaeda, and the Kinshasa Reactor,” RAND Project Air Force, 2005. Available at: [http://www.rand.org/pubs/documented\\_briefings/2005/RAND\\_DB458.sum.pdf](http://www.rand.org/pubs/documented_briefings/2005/RAND_DB458.sum.pdf).



or its interests.<sup>29</sup> Al Qaeda took a two prong approach to acquiring nuclear weapons and materials. First, in Sudan during the mid-1990s, Al Qaeda tried to obtain nuclear materials that could be used to make a weapon.<sup>30</sup> Fortunately, Al Qaeda was unable to obtain the necessary materials because they fell victim to scams involving different types of radiological waste, such as the use of Red Mercury. Second, while in Afghanistan and under the protection of the Taliban, Al Qaeda began a more ambitious acquisition effort that included consultations with Pakistani civilian nuclear scientists.<sup>31</sup> Evidence also suggests that Al Qaeda may have attempted to purchase weapons (including so-called suitcase nukes) from Russia and elsewhere.<sup>32</sup> Following extensive analysis of open source information and interviews with knowledgeable officials in February of 2002, the Institute for Science and International Security found no credible evidence that either bin Laden or Al Qaeda possesses nuclear weapons or sufficient fissile material to make them.<sup>33</sup> However, if Al Qaeda obtained enough plutonium or highly enriched uranium, the Institute for Science and International Security believes they are capable of building a crude nuclear explosive, despite several difficult steps.<sup>34</sup>

Additionally, the United States conducted its own analysis of Al Qaeda's nuclear weapons capabilities through the Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction. The commission presented its

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29 PBS Frontline Interview of December 23, 1998, available at <http://www.pbs.org/wgbh/pages/frontline/shows/binladen/who/edicts.html>

30 Sara Daly, John Parachini, William Rosenau, "Aum Shinrikyo, Al Qaeda, and the Kinshasa Reactor," RAND Project Air Force, 2005. Available at: [http://www.rand.org/pubs/documented\\_briefings/2005/RAND\\_DB458.sum.pdf](http://www.rand.org/pubs/documented_briefings/2005/RAND_DB458.sum.pdf).

31 Ibid

32 Ibid

33 David Albright, Kathryn Buehler and Holly Higgins, "Bin Laden and the Bomb," Institute for Science and International Security. <http://www.isis-online.org/publications/terrorism/binladenandbomb.pdf>

34 Ibid

report in March of 2005. It stated that in October 2001, the U.S. intelligence community assessed that Al Qaeda was capable of fabricating at least a "crude" nuclear device if it could obtain the requisite nuclear material, which is separated plutonium or HEU.<sup>35</sup> The commission also reported that the CIA's Weapons Intelligence, Nonproliferation, and Arms Control (WINPAC) Center and its Counterterrorist Center judged in November 2001 that Al Qaeda "probably had access to nuclear expertise and facilities and that there was a real possibility of the group developing a crude nuclear device."<sup>36</sup> The commission also emphasized that the documents seized from Al Qaeda safe houses in Afghanistan after the overthrow of the Taliban "brought to light detailed and revealing information about the direction and progress of Al Qaeda radiological and nuclear ambitions," which had not been available when those earlier judgments were made.<sup>37</sup> Therefore, it seems clear that Al Qaeda was actively pursuing the production or acquisition of at least one nuclear weapon. As a result, it is likely that once nuclear weapons are acquired, Al Qaeda or one of its affiliates will be willing to use them against a target within the United States.

### **Typical origins of unsecured nuclear weapons and materials**

The problem of unsecured nuclear weapons and materials was believed to be tied mainly to the former Soviet Union. Although in recent years, Pakistan, Iran, and North Korea have also come to pose a significant threat as well. Effective control over

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35 Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction, Report to the President (Washington, D.C.: WMD Commission, 2005), pp. 267, 71, 92

36 Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction, Report to the President (Washington, D.C.: WMD Commission, 2005), pp. 267, 71, 92

37 Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction, Report to the President (Washington, D.C.: WMD Commission, 2005), pp. 267, 71, 92

plutonium and HEU is fundamental to the entire global effort to stop the spread of nuclear weapons to hostile states and terrorist groups.<sup>38</sup> It is paramount to keep nuclear materials out of the hands of non-state actors such as terrorist organizations, as well as, other aggressive, less developed states. Therefore, limiting access to plutonium and HEU is the primary technical barrier to the spread of nuclear weapons. Even small amounts of HEU are a risk. Most countries, even some terrorist organizations, could build at least a crude nuclear bomb capable of obliterating the downtown area of a major metropolitan area if they had sufficient materials in their possession.<sup>39</sup> As was previously stated, a crude device would require approximately four kilograms of plutonium and is capable of leveling several city blocks, as well as, inflicting mass casualties.

The threat of nuclear terrorism is both real and credible. There have already been multiple seizures, by authorities in Russia and elsewhere, of several kilogram quantities of stolen weapons-usable uranium, and one seizure of hundreds of grams of weapons-usable plutonium.<sup>40</sup> The seizures of weapons-useable nuclear material are limited; however, they pose a significant risk. The nuclear trafficking database maintained by the International Atomic Energy Agency includes 18 confirmed cases of seizure of at least small quantities of HEU and plutonium since 1993.<sup>41</sup>

Typically when discussing the problem of loose nukes or unsecured nuclear materials, the countries that were once the Soviet Union pose a threat to the security of the United States. "Many of the Russian nuclear sites remain vulnerable to insiders

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38 Ibid

39 J. Carson Mark et al., "Can Terrorists Build Nuclear Weapons?" in Paul Leventhal and Yonah Alexander, eds., *Preventing Nuclear Terrorism*. Lexington, MA: Lexington Books, 1987

40 Matthew Bunn and Anthony Weir, "Securing the Bomb 2005: The New Global Imperatives," *Managing the Atom Project*, Harvard University, and Nuclear Threat Initiative. Available at: [www.nti.org/cnwm](http://www.nti.org/cnwm)

41 International Atomic Energy Agency (IAEA), "Radioactive Sources: Facts and Figures," June 2002

determined to steal enough existing material to make several nuclear weapons and to transport these materials” to unstable regimes or terrorists.<sup>42</sup> In nearly all of the cases of nuclear trafficking recorded by the International Atomic Energy Agency, the seizure took place either within the Soviet Union or on its periphery, with reason to believe that the material originated within the former Soviet Union.<sup>43</sup>

Russia is estimated to have roughly 170 metric tons of weapons-usable separated plutonium (counting both military and civilian stockpiles) and over 900 tons of HEU.<sup>44</sup> According to common calculations, four kilograms of plutonium and roughly three times that amount of HEU is enough materials for a nuclear device. The stockpiles of fissile material that currently exist in Russia would be enough material for over 100,000 nuclear bombs.<sup>45</sup> In addition, the U.S. Department of Energy has estimated that approximately 600 tons of weapons-usable separated plutonium and HEU is not currently incorporated into existing nuclear weapons in the former Soviet Union.<sup>46</sup> Simply put, the HEU is “loose” and is available for use. This nuclear material is located and stored in an estimated 252 buildings, at 53 sites, spread across 11 time zones throughout Russia.<sup>47</sup> With limited budgets and personnel, adequately securing these materials proves to be a daunting task. All of the nuclear weapons that were produced for the former Soviet Union are now in Russia, as is some 99% of the weapons-usable material, but civilian facilities

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42 Baker-Cutler Task Force, Appendix C: Terms of Reference. p. vi.

43 Matthew Bunn, “Preventing a Nuclear 9-11,” *Issues in Science and Technology*, Winter 2005. Available at: <http://www.issues.org/issues/21.2/bunn.html>.

44 Matthew Bunn and Anthony Weir, “Securing the Bomb 2005: The New Global Imperatives,” *Managing the Atom Project*, Harvard University, and Nuclear Threat Initiative. Available at: [www.nti.org/cnwm](http://www.nti.org/cnwm)

45 Restricted Data Declassification Decisions From 1946 To the Present, RDD-7 (Washington DC: U.S. Department of Energy, January 1, 2001), item L.33.

46 MPC&A Program Strategic Plan (Washington DC: U.S. Department of Energy, July 2001).

47 General Accounting Office (GAO), *Nuclear Nonproliferation: Security of Russia's Nuclear Material Improving; Further Enhancements Needed*, GAO-01-312 (Washington, DC: General Accounting Office, February 28, 2001), p. 8.

in Belarus, Kazakhstan, Latvia, Ukraine, and Uzbekistan also have quantities large enough to pose proliferation risks.<sup>48</sup>

Funding issues contribute to the lack of security at storage facilities across the former Soviet Union. Several problems exist with the management of nuclear weapons and materials in the former Soviet Union, which poses threats to international security. First, nuclear weapons and materials stockpiles are not secure and poorly accounted for in the former Soviet Union.<sup>49</sup> In addition, if nuclear weapons or materials are stolen, the procedures in place to find and recover them, or to hinder smuggling across borders, are inadequate at best.<sup>50</sup> For example, custodians at nuclear stockpile facilities face low pay and the prospect of mass layoffs, and are often in an under-funded and oversized nuclear complex.<sup>51</sup> Furthermore, the management of nuclear stockpiles remains shrouded in secrecy, making a clear understanding of the problems and effective implementation of solutions far more difficult.<sup>52</sup> Finally, more weapons-usable material continues to be produced and the stockpile of nuclear weapons and materials that now exists is far larger than is needed for military purposes.<sup>53</sup> This final factor greatly inhibits or slows the progress that has been made in reducing nuclear weapons and materials in the former Soviet Union.

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48 Matthew Bunn and Anthony Weir, "Securing the Bomb 2005: The New Global Imperatives," Managing the Atom Project, Harvard University, and Nuclear Threat Initiative. Available at: [www.nti.org/cnwm](http://www.nti.org/cnwm)

49 Matthew Bunn and Anthony Weir, "Securing the Bomb 2005: The New Global Imperatives," Managing the Atom Project, Harvard University, and Nuclear Threat Initiative. Available at: [www.nti.org/cnwm](http://www.nti.org/cnwm)

50 Matthew Bunn and Anthony Weir, "Securing the Bomb 2005: The New Global Imperatives," Managing the Atom Project, Harvard University, and Nuclear Threat Initiative. Available at: [www.nti.org/cnwm](http://www.nti.org/cnwm)

51 Matthew Bunn and Anthony Weir, "Securing the Bomb 2005: The New Global Imperatives," Managing the Atom Project, Harvard University, and Nuclear Threat Initiative. Available at: [www.nti.org/cnwm](http://www.nti.org/cnwm)

52 Matthew Bunn and Anthony Weir, "Securing the Bomb 2005: The New Global Imperatives," Managing the Atom Project, Harvard University, and Nuclear Threat Initiative. Available at: [www.nti.org/cnwm](http://www.nti.org/cnwm)

53 Matthew Bunn and Anthony Weir, "Securing the Bomb 2005: The New Global Imperatives," Managing the Atom Project, Harvard University, and Nuclear Threat Initiative. Available at: [www.nti.org/cnwm](http://www.nti.org/cnwm)

According to a May 2005 report by Matthew Bunn and Anthony Wier of Harvard University's Managing the Atom project, there continues to be "guards patrolling without ammunition in their guns, workers propping open security doors for convenience and guards turning off intrusion detectors when they become annoyed by the false alarms."<sup>54</sup> A legitimate and credible threat exists. According to Matt Bunn in *Preventing a Nuclear 9-11*, "Russian officials confirm that terrorist teams have actually carried out reconnaissance at Russian nuclear warhead storage sites."<sup>55</sup> In addition to terrorists, ordinary individuals have attempted to make money off of loosely guarded nuclear materials. On October 14, 2003, two residents of the Russian town of Sarov were convicted of falsely posing as employees of an unidentified nuclear facility and offering to sell a Russian businessman stolen weapons-grade plutonium for \$750,000 to sell to a foreign client.<sup>56</sup> The CIA's National Intelligence Council reported to Congress in December 2004 that the security of nuclear stockpiles in Russia has been "slowly improving," although many "risks remain."<sup>57</sup> Even more troubling, the report concluded that it was "highly unlikely that Russian authorities would have been able to recover all the material that was reportedly stolen" and judged that "undetected nuclear smuggling has occurred."<sup>58</sup> Evidence suggests that vast amounts of nuclear materials and weapons remain in Russia, as well as, parts of the former Soviet Union. Additionally, these

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54 Matthew Bunn, "Preventing a Nuclear 9-11," *Issues in Science and Technology*, Winter 2005. Available at: <http://www.issues.org/issues/21.2/bunn.html>.

55 Matthew Bunn, "Preventing a Nuclear 9-11," *Issues in Science and Technology*, Winter 2005. Available at: <http://www.issues.org/issues/21.2/bunn.html>.

56 "Two Sarov Residents Convicted in Phony Plutonium Deal Case," October 14, 2003. Available at: <http://www.nti.org/db/nisprofs/russia/weafacl/warheadd/sarov.htm>.

57 National Intelligence Council, "Annual Report to Congress on the Safety and Security of Russian Nuclear Facilities and Military Forces," December 2004. Available at: [http://www.cia.gov/nic/special\\_russiannuke04.html](http://www.cia.gov/nic/special_russiannuke04.html).

58 Ibid

materials and weapons are often poorly secured and the accounting practices that keep track of materials are often flawed. More so, if a theft was detected, it is unlikely that Russian authorities would be able to recover the missing materials in a timely fashion, if at all.

Countries that made up the former Soviet Union are not the only locations that nuclear weapons and materials are easy to obtain. Iran has re-instated its nuclear program against strong recommendations by the western nations, as well as the United Nations, to keep the program in moth balls. Because Iran retains a highly secretive government and has never been under the level of intense international inspection that Iraq faced, information about its procurement efforts is even more fragmentary.<sup>59</sup> However, the available information suggests that Iran also has sought to purchase stolen nuclear material from other nations and organizations.<sup>60</sup> During 2003 and 2004, a series of IAEA reports documented Iran's decades-long secret effort to develop uranium enrichment, as well as other key technologies for producing potential nuclear weapons materials.<sup>61</sup> More progress has been made in their nuclear program than was originally noted. Iran built a substantial illicit procurement network to acquire technologies related to weapons of mass destruction and ballistic missiles all over the world, but in particular in the former Soviet Union.<sup>62</sup> While it is now clear that the most critical technologies for Iran's indigenous efforts to produce nuclear material were coming from the black-market

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59 Matthew Bunn, "The Demand for Black Market Fissile Material". June 16, 2005. Available at: [http://www.nti.org/e\\_research/cnwm/threat/demand.asp#\\_ftnref12](http://www.nti.org/e_research/cnwm/threat/demand.asp#_ftnref12)

60 Matthew Bunn, "The Demand for Black Market Fissile Material". June 16, 2005. Available at: [http://www.nti.org/e\\_research/cnwm/threat/demand.asp#\\_ftnref12](http://www.nti.org/e_research/cnwm/threat/demand.asp#_ftnref12)

61 International Atomic Energy Agency, Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran: Report by the Director General, GOV/2004/83 (Vienna: IAEA, November 15, 2004).

62 Matthew Bunn, "The Demand for Black Market Fissile Material". June 16, 2005. Available at: [http://www.nti.org/e\\_research/cnwm/threat/demand.asp#\\_ftnref12](http://www.nti.org/e_research/cnwm/threat/demand.asp#_ftnref12)

nuclear network led by Pakistan's A.Q. Khan, not from Russia, Iran's nuclear connections to the former Soviet Union are strong, and there is significant evidence of ongoing efforts to acquire stolen nuclear material.<sup>63</sup> As with terror organizations, Iran also sought Russian nuclear material, although the technology needed for their program seemed to originate in Pakistan.

In addition, Pakistan currently possesses nuclear technology, as well as nuclear weapons that would also be a tantalizing acquisition for non-state actors, such as a terrorist organization, because officials in the Pakistani government are likely, to be sympathetic to the ideology associated with terrorist organizations. Pakistan began building its nuclear program during the mid-1970s with the purpose of enriching uranium. By the mid-1980s, Pakistan had a clandestine uranium enrichment facility. It was as early as 1989 that the United States concluded that Islamabad, which is the capitol of the country, had acquired the capability to assemble a first-generation nuclear device.<sup>64</sup> Pakistan is believed to have stockpiled approximately 580-800kg of HEU, which is a sufficient amount of material to build 30-50 fission bombs.<sup>65</sup> The nuclear materials and weapons sites in Pakistan are under better protection than the Russian sites; however, ideological mindsets may help to create a sense of sympathy for terrorist organizations and their causes. As a result, a sympathetic government official or military commander may be willing to share information or materials with a terrorist organization.

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63 Matthew Bunn, "The Demand for Black Market Fissile Material". June 16, 2005. Available at: [http://www.nti.org/e\\_research/cnwm/threat/demand.asp#\\_ftnref12](http://www.nti.org/e_research/cnwm/threat/demand.asp#_ftnref12)

64 Nuclear Threat Initiative, "Country Profile: Pakistan" Accessed 1/20/06. Available at: [http://www.nti.org/e\\_research/profiles/Pakistan/index.html](http://www.nti.org/e_research/profiles/Pakistan/index.html)

65 Nuclear Threat Initiative, "Country Profile: Pakistan" Accessed 1/20/06. Available at: [http://www.nti.org/e\\_research/profiles/Pakistan/index.html](http://www.nti.org/e_research/profiles/Pakistan/index.html)



Finally, the threat of nuclear weapons is also real and credible in the country of North Korea. Like Iran, North Korea has been asked to stop its nuclear programs and has also refused. The country had remained nuclearly dormant from 1994 to approximately 2002. According to a December 2001 National Intelligence Council report, the U.S. intelligence community ascertained in the mid-1990s that North Korea had produced one, and possibly two, nuclear weapons.<sup>66</sup> In October 2002, North Korea confirmed U.S. intelligence reports that it had a clandestine enriched uranium weapons program in violation of the Agreed Framework and the Nuclear Non-Proliferation Treaty.<sup>67</sup> In December 2002, Pyongyang, which is the capitol, lifted the freeze on its plutonium-based nuclear weapons program and expelled IAEA inspectors who had been monitoring the freeze under the Agreed Framework of October 1994.<sup>68</sup> Discrepancies between North Korean declarations and IAEA inspection findings indicated that North Korea might have reprocessed enough plutonium for one or two more nuclear weapons.<sup>69</sup> By mid-2002, U.S. intelligence discovered that North Korea had been receiving materials from Pakistan for a highly enriched uranium production facility.

Iran, Pakistan, North Korea, and the former Soviet Union all present a security risk to the United States, either by the direct threat of an attack or as a supply mechanism for nuclear weapons or materials to a terrorist organization. The current climate suggests that countries like North Korea and Iran are going to pursue their nuclear ambitions

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66 Nuclear Threat Initiative, "Country Profile: North Korea" Accessed 1/20/06. Available at: [http://www.nti.org/e\\_research/profiles/NK/index.html](http://www.nti.org/e_research/profiles/NK/index.html)

67 Nuclear Threat Initiative, "Country Profile: North Korea" Accessed 1/20/06. Available at: [http://www.nti.org/e\\_research/profiles/NK/index.html](http://www.nti.org/e_research/profiles/NK/index.html)

68 Nuclear Threat Initiative, "Country Profile: North Korea" Accessed 1/20/06. Available at: [http://www.nti.org/e\\_research/profiles/NK/index.html](http://www.nti.org/e_research/profiles/NK/index.html)

69 Nuclear Threat Initiative, "Country Profile: North Korea" Accessed 1/20/06. Available at: [http://www.nti.org/e\\_research/profiles/NK/index.html](http://www.nti.org/e_research/profiles/NK/index.html)

without regard to world opinion, UN sanctions or western rhetoric. In summation, Pakistan has proven to be a nuclear material and information clearing house for rogue states. It has supplied both Iran and North Korea with the materials and the technical knowledge necessary to operationalize their nuclear programs and facilities. However, the former Soviet Union poses an equal, if not greater, risk because of their large quantity of lightly guarded nuclear weapons and materials. While the former Soviet Union has the greatest quantity of nuclear weapons and materials, countries like Pakistan and Iran pose a more significant risk to the United States because of their religious, philosophical, and financial ties to Islamic terrorism. In addition, although it is unlikely, any of the eight nuclear powers pose proliferation risks. Only a small amount of HEU is needed to have devastating consequences.

### **Movement of nuclear material and weapons**

If terrorists were able to steal, buy, or make a nuclear weapon, evidence suggests that the U.S. government and its intelligence and security agencies would have a difficult time stopping the terrorist organization from smuggling the weapon into the United States. Thousands of tons of illegal drugs and millions of illegal immigrants cross U.S. borders each year, despite massive efforts to stop them.<sup>70</sup> The essential ingredients of a nuclear bomb can fit easily into a briefcase and can be made quite difficult to detect and

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<sup>70</sup> Bunn, Matthew. Preventing Nuclear Terrorism: A Progress Update. Accessed 1/20/06. Available at: [http://www.nti.org/c\\_press/analysis\\_cnwmupdate\\_102203.pdf](http://www.nti.org/c_press/analysis_cnwmupdate_102203.pdf)

easy to transport. Unlike the situation with drugs or illegal immigrants, nuclear terrorists only have to succeed once to cause a terrifying catastrophe.<sup>71</sup>

Terrorists and transnational criminals continually take advantage of every known legal resource for moving people, goods, and services across international borders. The United States is not free from this problem. In fact, virtually every known or suspected terrorist has exploited legal opportunities to enter or remain in the United States.<sup>72</sup> Most terrorists, including the 9/11 hijackers passed through screening at an established point of entry. In addition, many of the hijackers passed through security check points on multiple occasions. These vulnerabilities make it likely that terrorists will continue to use sophisticated travel methods to enter the United States, including acquiring new passports to hide past travel.<sup>73</sup> In addition, freight coming into the United States is screened with minimal standards.

According to the Department of Transportation, statistics show that approximately 10,456,473 loaded containers came through ports into the United States in 2004<sup>74</sup>. Currently, the Department of Homeland Security has the capabilities to screen approximately two percent of the containers entering the United States. In addition, approximately 11,407,570 trucks transporting goods crossed the border into the United States in 2004<sup>75</sup>. Proportionately, very few of these vehicles were checked as well. Rail lines were also used heavily in border crossings. In 2004, approximately 1,790,382 rail

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71 Anthony Wier and Matthew Bunn, "Introduction: Interdicting Nuclear Smuggling," last updated August 2002, available as of October 20, 2003, at [http://www.nti.org/e\\_research/cnwm/interdicting/index.asp](http://www.nti.org/e_research/cnwm/interdicting/index.asp).

72 Janice Kephart, "Immigration Benefits and Terrorism," Center for Immigration Studies, September 2005, p. 7.

73 James Jay Carafano, Ph.D. "Safeguarding America's Sovereignty: A "System of Systems" Approach to Border Security." The Heritage Foundation. November 28, 2005 Available at: [http://www.heritage.org/Research/HomelandDefense/bg1898.cfm#\\_ftnref7](http://www.heritage.org/Research/HomelandDefense/bg1898.cfm#_ftnref7)

74 Department of Transportation. Bureau of Transportation Statistics. Accessed 1/22/06. Available at: <http://www.bts.gov/>

75 Department of Transportation. Bureau of Transportation Statistics. Accessed 1/22/06. Available at: <http://www.bts.gov/>

cars entered into the United States.<sup>76</sup> Again, a minimal amount of rail cars were examined.

Terrorists and transnational criminals are able to cross borders almost unhindered. The luggage they carry with them can contain devices that can produce catastrophic results. Furthermore, evidence suggests that the program used to screen containers coming into the United States does not screen enough containers to even serve as a deterrent. In addition, the 9/11 Commission concluded that “the challenge for national security in an age of terrorism is to prevent the very few people who may pose overwhelming risks from entering or remaining in the United States undetected.”<sup>77</sup> Materials, as well as people, must be tracked and examined before they enter into the United States in order to create a better sense of security. Border checkpoints and crossings serve as the last line of defense against terrorist organizations attempting to enter into the United States.

### **Effects of an Attack**

The use of a tactical or an improvised nuclear weapon would most likely occur against a large population center or another key target. The attack would be designed to create a mass casualty incident with extensive direct and collateral damage to the government, critical infrastructure, financial institutions, military and corporate institutions<sup>78</sup>. An attack on Washington D.C., New York, or Los Angeles would provide the optimal strike option for a terrorist organization.

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<sup>76</sup> Department of Transportation. Bureau of Transportation Statistics. Accessed 1/22/06. Available at: <http://www.bts.gov/>

<sup>77</sup> The 9/11 Commission Report, p. 383.

<sup>78</sup> Venzke, Ben N. “Al-Qaeda Tactic / Target Brief.” Tempset Publishing. Alexandria, VA. 2002.

An attack on the Washington D.C. metro area using a ten kiloton weapon would have the potential of inflicting, as many as, 300,000 deaths according to a Department of Energy National Nuclear Security Administration (NNSA) report.<sup>79</sup> The report that was published in 2003 described the detonation of an improvised nuclear device in the Washington D.C. metro area. After detonation of the weapon, a radioactive plume began moving northeast over Prince George and Howard counties. Both counties had difficulty evacuating their residents, which increased their total number of fatalities. Another report published during the same time period had similar findings.

According to a Homeland Security Council (HSC) report prepared in July of 2004, a similar scenario was used in which a ten kiloton weapon was detonated in the Washington D.C. metro area. In this particular projection wind direction was different, and the emergency management officials were able to evacuate more people than the NNSA scenario. The loss of life from this scenario was estimated at between 99,000 and 190,000 people.<sup>80</sup> In either scenario, a blast from a ten kiloton weapon would destroy everything within a half mile of the epicenter and cause severe damage for miles beyond. The area affected would be contaminated for many years and would likely be deemed uninhabitable. The loss of life and the loss of property would be staggering.

The Department of Homeland Security offered yet another scenario for a nuclear attack on Washington D.C. in their publication *National Planning Scenarios 2005*. This particular document was created for use in federal, state, local, and homeland security preparedness activities. This particular scenario described the detonation of a 10-kiloton,

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79 Mintz, John. "US Called unprepared for Nuclear Terrorism." Washington Post" May 3, 2005. Available at: <http://www.washingtonpost.com/wp-dyn/content/article/2005/05/02/AR2005050201454.html>

80 Mintz, John. "US Called unprepared for Nuclear Terrorism." Washington Post" May 3, 2005. Available at: <http://www.washingtonpost.com/wp-dyn/content/article/2005/05/02/AR2005050201454.html>

Uranium-235, gun-type nuclear device in the central business district of Washington D.C.<sup>81</sup> The detonation is assumed to take place during working hours at 10:00 a.m. on a weekday.<sup>82</sup> The population distribution used is based on U.S. Census (nighttime) data with two additional population densities added in order to represent the workday influx into the center of the city.<sup>83</sup> Specifically, 481,000 people were added inside a three mile radius of the detonation site, and 220,000 additional people were added inside a seven mile wide annulus with an inner radius of three miles.<sup>84</sup> Additionally, the wind was light out of the west-southwest.<sup>85</sup>

High numbers of casualties would be expected with this type of attack. Persons exposed to a nuclear explosion may be killed or suffer various types of injuries. Direct and indirect blast effects, thermal radiation, and ionizing radiation are the primary causes of injury or death. Typically, there are two types of casualties involving the detonation of a nuclear weapon. First, blast fatalities and injuries result from “translation or tumbling” which is the human body being thrown. “Translation or impact” are items impacting the human body, lung damage, and eardrum rupture.<sup>86</sup> Typically, blast casualties occur from the direct action of the pressure wave, the impact of projectiles and fragments (including glass) created from explosion-energized materials, and whole body translation and

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81 Department of Homeland Security. National Planning Scenarios. March 2005. p. 1-13 Available at:

<http://media.washingtonpost.com/wpsrv/nation/nationalsecurity/earlywarning/NationalPlanningScenariosApril2005.pdf>

82 Department of Homeland Security. National Planning Scenarios. March 2005. p. 1-13 Available at:

<http://media.washingtonpost.com/wpsrv/nation/nationalsecurity/earlywarning/NationalPlanningScenariosApril2005.pdf>

83 Department of Homeland Security. National Planning Scenarios. March 2005. p. 1-13 Available at:

<http://media.washingtonpost.com/wpsrv/nation/nationalsecurity/earlywarning/NationalPlanningScenariosApril2005.pdf>

84 Department of Homeland Security. National Planning Scenarios. March 2005. p. 1-13 Available at:

<http://media.washingtonpost.com/wpsrv/nation/nationalsecurity/earlywarning/NationalPlanningScenariosApril2005.pdf>

85 Department of Homeland Security. National Planning Scenarios. March 2005. p. 1-13 Available at:

<http://media.washingtonpost.com/wpsrv/nation/nationalsecurity/earlywarning/NationalPlanningScenariosApril2005.pdf>

86 Department of Homeland Security. National Planning Scenarios. March 2005. p. 1-13 Available at:

<http://media.washingtonpost.com/wpsrv/nation/nationalsecurity/earlywarning/NationalPlanningScenariosApril2005.pdf>

impact.<sup>87</sup> In this scenario, approximately 46,612<sup>88</sup> individuals were exposed to the blast. Of those individuals exposed 14,623 were fatalities, while 31,430 were considered to be casualties.<sup>89</sup> According to the scenario, a little less than 1% of the population near the epicenter escaped injury.

The second categorization of casualties as a result of the detonation of a nuclear weapon deals with radiation exposure. Burn casualties may result from the absorption of thermal radiation energy by the skin, heating, ignition of clothing caused by thermal radiation, and structural fires started by the thermal pulse or as side effects of the air blast or the ground shock. In this scenario, approximately 303,071<sup>90</sup> individuals were exposed to the radiation. Of those individuals exposed 190,167 were fatalities, while 264,486 were considered to be casualties.<sup>91</sup>

Additionally, long term casualties would be likely to occur due to chronic radiation exposure or fallout, in the form of cancers. Radiation casualties following a nuclear detonation may be caused by prompt nuclear radiation or by radiation from the radioactive fallout, or both. In this scenario, approximately 1,358,718 individuals were

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87 Department of Homeland Security. National Planning Scenarios. March 2005. p. 1-13 Available at: <http://media.washingtonpost.com/wpsrv/nation/nationalsecurity/earlywarning/NationalPlanningScenariosApril2005.pdf>

88 Department of Homeland Security. National Planning Scenarios. March 2005. p. 1-13 Available at: <http://media.washingtonpost.com/wpsrv/nation/nationalsecurity/earlywarning/NationalPlanningScenariosApril2005.pdf>

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90 Department of Homeland Security. National Planning Scenarios. March 2005. p. 1-13 Available at: <http://media.washingtonpost.com/wpsrv/nation/nationalsecurity/earlywarning/NationalPlanningScenariosApril2005.pdf>

91 Department of Homeland Security. National Planning Scenarios. March 2005. p. 1-13 Available at: <http://media.washingtonpost.com/wpsrv/nation/nationalsecurity/earlywarning/NationalPlanningScenariosApril2005.pdf>

exposed to the plume of radioactive material.<sup>92</sup> Of those individuals exposed 24,580 would acquire fatal cancers, while 49,160 would acquire some other type of cancer.<sup>93</sup>

## Summary

The threat is clear. Nuclear materials or weapons in the possession of a terrorist organization or non-state actor present a grave risk to the national security of the United States. First and foremost, it is clear that terrorist organizations, such as Al Qaeda, are actively seeking nuclear material and weapons to perpetrate violence. The evidence suggests that terrorist organizations are most likely to obtain nuclear material and weapons from the former Soviet Union, Iran, North Korea, or Pakistan. Furthermore, the data also suggests that the nuclear arsenal of the former Soviet Union is lightly guarded and is accessible by terrorist organizations and other criminals. In addition, it suggests that individuals in Pakistan and Iran with access to nuclear materials or knowledge of nuclear science may be sympathetic to the causes of Al Qaeda or one of its affiliates. Moreover, a threat clearly originates from within North Korea itself.

These scenarios, coupled with the fact that the United States' borders, ports, and points of entry are not secure, provide a very real and catastrophic threat to the nation's security. For many years drug and human trafficking have run rampant across the borders of the United States. Furthermore, the United States allocates far more resources toward other aspects of government. Since the invasion of Iraq, the United States has spent \$200 billion on the war in Iraq but only \$2 billion on securing the nuclear materials

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92 Department of Homeland Security. National Planning Scenarios. March 2005. p. 1-13 Available at: <http://media.washingtonpost.com/wpsrv/nation/nationalsecurity/earlywarning/NationalPlanningScenariosApril2005.pdf>

93 Department of Homeland Security. National Planning Scenarios. March 2005. p. 1-13 Available at: <http://media.washingtonpost.com/wpsrv/nation/nationalsecurity/earlywarning/NationalPlanningScenariosApril2005.pdf>



that are most likely targeted by Al Qaeda.<sup>94</sup> Additionally, in the two years after September 11, the United States has secured less nuclear material than was secured in the two years prior to September 11, 2001.<sup>95</sup> The conditions are inviting for an Al Qaeda attack.

The worst case scenario is an attack on a major metropolitan area in the United States. A nuclear attack on Washington D.C., Los Angeles, or New York would cripple the economy, fracture the government, and take the resolve out of the American public. The attack would contaminate the area around ground zero for years to come making rescue and cleanup very risky. First responders would be placed in jeopardy while trying to help the injured. The hospitals in the Washington D.C. metro area would not have enough resources to adequately deal with the emergency. The operation of government would cease because much of its physical structure would be destroyed. Furthermore, the services necessary for the rebuilding of affected areas and helping the victims would be unavailable or nonexistent. A real and credible threat exists. Al Qaeda or one of its affiliates will use nuclear weapons in one form or another against the United States if they are able to acquire the weapons. The results of such an attack would be devastating and demoralizing.

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<sup>94</sup> <http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=15813&proj=znpp>

<sup>95</sup> Ibid

## **VII. The Policy Response to Nuclear Terrorism**

As was described in the methodology, a comprehensive directory of the public laws, enacted from September 11, 2001 until January 1, 2005, dealing with the threat of nuclear terrorism was created. The directory was generated searching by **subject** and **date** using THOMAS. THOMAS is the Library of Congress's legislative database. According to THOMAS, subject terms were created by legislative analysts from the Congressional Research Service (CRS) of the Library of Congress. Analysts closely examine the content of each bill and resolution and assign (index) as many subject terms as are required to describe the measure's substance and effects. Terms appearing in the subjects display come from a list that is based upon the CRS Legislative Indexing Vocabulary (LIV), a thesaurus developed to classify public policy subject matter. The following subject terms were used in the query: nuclear weapons, nuclear terrorism, and nuclear proliferation.

Additional analysis was conducted using the Congressional Quarterly Almanac Index. The terms homeland security, terrorism, and nuclear weapons were used for this portion of the analysis. There were no additional significant measures adopted from September 11, 2001 until January 1, 2005, dealing with the threat of nuclear terrorism. In some instances, amendments were added to various pieces of legislation dealing specifically with appropriations.

### **The 107<sup>th</sup> Congress**

The following public laws in the 107th Congress were identified as a result of THOMAS search mechanism.

**2001**

- Public Law 107-56, The Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA Patriot Act) Act Of 2001, which was signed into law on October 26, 2001
- Public Law 107-63, The Department of the Interior and Related Agencies Appropriations Act, 2002, which was signed into law on November 5, 2001
- Public Law 107-66, The Energy and Water Development Appropriations Act, 2002, which was signed into law on November 12, 2001
- Public Law 107-71, The Aviation and Transportation Security Act, which was signed into law on November 19, 2001
- Public Law 107-107, The National Defense Authorization Act for Fiscal Year 2002, which was signed into law on December 28, 2001.

**2002**

- Public Law 107-115, The Foreign Operations, Export Financing, and Related Programs Appropriations Act, 2002, which was signed into law on January 10, 2002.
- Public Law 107-116, The Departments of Labor, Health and Human Services, and Education, and Related Agencies Appropriations Act, 2002 which was signed into law on January 10, 2002.
- Public Law 107-117, The Department of Defense and Emergency Supplemental Appropriations for Recovery From and Response to the Terrorist Attacks on the United States Act, 2002 which was signed into law on January 10, 2002.
- Public Law 107-173, Enhanced Border Security and Visa Entry Reform Act of 2002, which was signed into law on May 14, 2002.
- Public Law 107-188, Public Health Security and Bioterrorism Preparedness and Response Act Of 2002, which was signed into law on June 12, 2002.
- Public Law 107-197, The Terrorist Bombings Convention Implementation Act of 2002, which was signed into law on June 25, 2002.

- Public Law 107-206, The 2002 Supplemental Appropriations Act for Further Recovery from and Response to Terrorist Attacks on the United States, which was signed into law on August 2, 2002.
- Public Law 107-228, The Foreign Relations Authorization Act, Fiscal Year 2003, which was signed into law on September 30, 2002.
- Public Law 107-248, The Department of Defense Appropriations Act, 2003, which was signed into law on October 23, 2002.
- Public Law 107-273, The 21st Century Department of Justice Appropriations Authorization Act, which was signed into law on November 2, 2002.
- Public Law 107-287, The Department of Veterans Affairs Emergency Preparedness Act of 2002, which was signed into law on November 7, 2002.
- Public Law 107-295, The Maritime Transportation Security Act of 2002, which was signed into law on November 25, 2002.
- Public Law 107-296, The Homeland Security Act of 2002, which was signed into law on November 25, 2002.
- Public Law 107-306, The Intelligence Authorization Act for Fiscal Year 2003, which was signed into law on November 27, 2002.
- Public Law 107-314, The Bob Stump National Defense Authorization Act for Fiscal Year 2003, which was signed into law on December 2, 2002.

## **The 108<sup>th</sup> Congress**

The following public laws in the 108th Congress were identified as a result of THOMAS search mechanism.

### **2003**

- Public Law 108-7, The Consolidated Appropriations Resolution, 2003, which was signed into law on February 20, 2003.
- Public Law 108-11, The Emergency Wartime Supplemental Appropriations Act, 2003, which was signed into law on April 16, 2003.

- Public Law 108-87, The Department of Defense Appropriations Act, 2004, which was signed into law on September 30, 2003.
- Public Law 108-90, The Department of Homeland Security Appropriations Act, 2004, which was signed into law on October 1, 2003.
- Public Law 108-108, The Department of the Interior and Related Agencies Appropriations Act, 2004, which was signed into law on November 10, 2003.
- Public Law 108-136, The National Defense Authorization Act for Fiscal Year 2004, which was signed into law on November 24, 2003.
- Public Law 108-137, The Energy and Water Development Appropriations Act, 2004, which was signed into law on December 1, 2003.
- Public Law 108-175, The Syria Accountability and Lebanese Sovereignty Restoration Act of 2003, which was signed into law on December 12, 2003.
- Public Law 108-183, The Veterans Benefits Act of 2003, which was signed into law on December 16, 2003.
- Public Law 108-188, The Compact of Free Association Amendments Act of 2003, which was signed into law on December 17, 2003

## **2004**

- Public Law 108-276, the Project BioShield Act of 2004, which was signed into law on July 21, 2004.
- Public Law 108-287, the Department of Defense Appropriations Act, 2005, which was signed into law on August 5, 2004.
- Public Law 108-334, the Department of Homeland Security Appropriations Act, 2005, which was signed into law on October 18, 2004.
- Public Law 108-375, the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, which was signed into law on October 28, 2004.
- Public Law 108-447, the Consolidated Appropriations Act, 2005, which was signed into law on December 8, 2004.
- Public Law 108-458, the Intelligence Reform and Terrorism Prevention Act of 2004, which was signed into law on December 17, 2004.

- Public Law 108-487, the Intelligence Authorization Act for Fiscal Year 2005, which was signed into law on December 23, 2004.

## VIII. Analysis

The analysis conducted for this research will be classified by the date the public law was enacted. Each public law will have a heading followed by a brief description of its legislative trek. In addition, each public law will have a summary of the broader intentions of law as well as detailed analysis of that particular law's contribution to policy relating specifically to the prevention, deterrence, or response of nuclear terrorism. Furthermore, the public law will be analyzed to determine if it serves as a prevention or a deterrence, a protection against, or a response to an act of nuclear terrorism. Finally, a brief summary of any unintended effects or contributions the law may have on public policy. The laws are arranged according to the Congress that enacted them.

### USA Patriot Act

Directly following the September 11, 2001 attacks, John Ashcroft introduced a proposal that contained aggressive measures for combating terrorism. Despite concerns about the possible impact on civil liberties, the House and the Senate overwhelmingly agreed to give the Bush administration far-reaching new authority to track, prosecute, and arrest suspected terrorists.<sup>96</sup> Many differences and objections concerning the bill were ironed out behind closed doors in committee meetings involving key lawmakers and administration officials.<sup>97</sup> The end result was **HR 3162**. The bill passed both chambers and was signed into law on October 26, 2001.<sup>98</sup>

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96 Austin, Jan. "Congressional Quarterly Almanac Plus, 2001." CQ Press, Washington DC. 2002. pg. 14-3.

97 Ibid

98 Public Law 107-56, The Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA Patriot Act) Act Of 2001, which was signed into law on October 26, 2001. Available at:

<http://www.access.gpo.gov/nara/publaw/107publ.html>

The law dealt with surveillance issues, money laundering, border control measures, benefits for aliens, victims' compensation, changes in criminal law, the investigation of terrorism, and changes in intelligence gathering and dissemination. Some of the most controversial parts of the bill deal with the various types of surveillance. Section 203 promotes greater information sharing, by allowing information that is received during grand jury testimony to be shared with both the law enforcement and the intelligence communities. In addition, sections 207 and 214 allow law enforcement personnel to obtain information with greater ease through FISA warrants, wiretaps, nationwide search warrants, and sneak and peek searches. Furthermore, section 209 allows law enforcement personnel to obtain voicemail messages, while section 210 pertains to credit card information, business records, and Internet communication tracking information to help with the pursuit and apprehension of potential terrorists and criminals. Section 205 authorizes the FBI to hire additional translators to assist with the translation of intelligence.

Title III, entitled *International Money Laundering Abatement and Anti-terror Financing* takes unprecedented action against terrorist financing and money laundering issues. The law allows the Treasury Secretary to impose special measures on foreign financial institutions, as well as transactions that are determined to be used for money laundering. The law also promotes greater information sharing with regard to terrorist financing and money laundering. In addition, several anti-money laundering programs were implemented as a result of the legislation. Title III offers law enforcement personnel the tools that are needed to effectively track terrorist financing. Furthermore,

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the law describes the offenses, as well as punishments for those who are apprehended and convicted for money laundering violations.

Title IV, entitled *Protecting the Border* addresses border control issues. Section 404 increased the number of INS personnel by waiving the cap on the number of full time employees at the INS. Furthermore, this section also removed the cap on the total number of overtime hours as well. In addition, section 401 tripled the number of border personnel along the Canadian border. The law also set standards and a timetable for the development of identification technology such as an automated fingerprint system, the sharing of National Crime Information Center's Identification Index and the Wanted Persons File. Additionally, the law broadened the definition of terrorist activities by adding the use of explosives and other dangerous devices to the definition. Section 412 allows for the mandatory detention of an individual who is suspected to be involved with a terrorist organization or activity. Finally, section 417 requires that machine-readable passports be issued by countries who wish to participate in the Visa Waiver Program. The law also requires that a better tracking system for foreign students be implemented.

Measures are in place, as a result of The Patriot Act, to better assist in the investigation and the tracking of the financial networks of terrorism. Section 501 states that there is no limit to the amount of a reward for information regarding the capture of a terrorist; however, the Attorney General must approve rewards over \$250,000. Section 503 requires that a DNA database is to be kept of convicted offenders. In addition, financial information, educational information, as well as intelligence gathered from various sources must be shared with several agencies.

The Patriot Act helps to define the parameters for prosecution, as well as a general sense of the offenses that are now considered to be terrorist activities. In addition, the law increases measures that track terrorist financing and increases the number of border personnel. However, the Patriot Act does not make a direct reference to nuclear terrorism or introduce any measures that may help deter or prevent an attack. Section 2339, entitled *Harboring or concealing terrorists* states that whoever harbors or conceals any person who has, or is likely to, commit an offense relating to or involving nuclear materials or the sabotage of nuclear facilities is to be fined or imprisoned if they are found guilty of that offense. In addition, it is considered a federal crime of terrorism if an individual participates in a crime involving nuclear materials, weapons, or facilities. Furthermore, Section 810, entitled *Alternate Maximum Penalties for Terrorism*, adds to the length of prison sentences for acts of terrorism that involve, but are not limited to, nuclear materials, weapons, or facilities.

While the Patriot Act has made it easier for law enforcement officials to track, monitor, arrest, and prosecute terrorists, it has done little to adequately deter or prevent nuclear terrorism. However, the law will enable law enforcement personnel to have greater access to information that may, in turn, prevent an act of nuclear terrorism. This bill can be effective if law enforcement personnel are able to gather and process information regarding terrorist threats in a timely fashion. While the Patriot Act does not directly reference or deal with threats of nuclear terrorism, the doors that it has opened for law enforcement personnel may allow them to gain valuable information that could be used to prevent or deter a nuclear attack. In addition, the databases that the law has designated for creation will most likely aid law enforcement and intelligence personnel in

the tracking and apprehension of terrorist suspects. The Patriot Act does not contain specific language that would suggest that it serves as a protection against an act of nuclear terrorism. However, the law increases that number of border personnel and the hours that they can work, which effectively adds greater protection to the borders of the United States. This, in turn, may prevent a terrorist organization from smuggling nuclear materials or weapons across the border, thus reducing the risk to the United States. The law does not address the response to a terrorist event. The Patriot Act serves as a law enforcement tool more than anything else.

## **The Aviation and Transportation Security Act**

The need for a more comprehensive and structured approach to aviation security was extremely evident following the September 11, 2001 attacks. The law began as **S 1447**, which was written largely as a result of negotiations among lawmakers and the White House.<sup>99</sup> The Senate unanimously passed the measure on October 11, 2001, which called for a full federalization of airport security.<sup>100</sup> However, House members opposed the approach taken by the Senate. After several weeks of debate, the House leadership backed down, clearing the way for the passage of the bill on November 16, 2001.<sup>101</sup> The bill was signed into law on November 19, 2001.<sup>102</sup>

The law has several key features, but its underlying goal is to secure the aviation industry through federalization.<sup>103</sup> The law places great emphasis on the screening of baggage and passengers by promoting training and performance standards for the new federal security screeners. In general, the law makes the federal government directly responsible for airport passenger and baggage screening by relieving the airlines of that responsibility. In order to achieve these objectives, section 109 requires that all airport screeners must be federal employees within one year of enactment. However, section 108 also allows up to five airports to opt-out of the federalized program and use private screeners. Additional airports would be allowed to opt-out if the Transportation Security Administration (TSA) found that the private screeners provided equal or superior levels

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99 Austin, Jan. "Congressional Quarterly Almanac Plus, 2001." CQ Press, Washington DC. 2001. pg.20-5.

100 Ibid

101 Ibid

102 Public Law 107-71, The Aviation and Transportation Security Act, which was signed into law on November 19, 2001. Available at: <http://www.access.gpo.gov/nara/publaw/107publ.html>

103 Austin, Jan. "Congressional Quarterly Almanac Plus, 2001." CQ Press, Washington DC. 2001. pg.20-4.

of security. Furthermore, section 108 requires that all areas of aviation security now must have federal supervision. Finally, section 110 requires that all checked baggage has to be screened using x-ray technologies, as well as explosive detection devices. A large portion of the law also deals with employee standards, citizenship issues, hiring and firing, no strike provisions, passenger profiling, and restricted access areas.<sup>104</sup>

The law also contains many provisions for aircraft and crew security. Section 105 now requires the use of air marshals on flights that are deemed to be high risk. Section 104 increases the physical security of cockpits by reinforcing cockpit doors. In addition, section 128 allows pilots to have firearms in the cockpits under certain circumstances. Furthermore, section 104 states that aircraft are to be equipped with switches for flight crews to notify pilots once a hijacking has occurred. Steps were also taken to prevent hijackers from turning off transponders after a hijacking. Additionally, section 107 requires flight crews to get additional training to help deter or prevent potential hijackings.

Section 101 also creates a new agency, the Transportation Security Administration, that is designed to oversee and administer the country's transportation security needs. The section states that the TSA is responsible for the day-to-day security operations involving all modes of transportation. This includes civil aviation, rail, highway, and water transportation. The agency is responsible for developing standards for the hiring of passenger and baggage screeners. In addition, the agency is responsible for the supervision and training of screening personnel, as well as administering the federal air marshal program. Finally, section 102 establishes an oversight board, which is

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<sup>104</sup> Austin, Jan. "Congressional Quarterly Almanac Plus, 2001." CQ Press, Washington DC. 2001. pg.20-4-9.

made up of representatives from Departments of Defense, Justice, Transportation, and Treasury, as well as the Central Intelligence Agency, National Security Council, and the Office of Homeland Security.

While the Aviation and Transportation Security Act made progress in securing civil aviation for the United States, it has done little to prevent or deter an act of nuclear terrorism. In addition, the law does not make any specific reference to nuclear terrorism. The law implements an aggressive plan to secure the nation's aviation industry by screening all passengers and carry-on luggage; however, vulnerabilities in air cargo security still exist. The security practices implemented by the Aviation and Transportation Security Act and the Transportation Security Administration once again demonstrate a reactive, rather than a proactive, approach by the United States government. Furthermore, the TSA focuses many of its resources on one particular mode of transportation, which is aviation security, while not adequately addressing the other modes of transportation. A layered approach must be taken, with equal importance placed on each mode of transportation. A wholesome approach is needed if the United States is going to secure all modes of transportation. It is fair to say that the United States is safer today than it was on September 10, 2001, but a more inclusive and comprehensive transportation security plan must be implemented with some emphasis placed on the threat of nuclear terrorism. The Aviation and Transportation Security Act make no specific contribution to the deterrence or prevention of nuclear terrorism. In addition, the law makes no contribution to a directed response to an attack involving nuclear terrorism.

## **Public Health Security and Bioterrorism Preparedness and Response Act**

The Public Health Security and Bioterrorism Preparedness and Response Act was introduced in 2001 out of concern that the nation's public health system was unprepared to handle a major bioterrorism act and other public health emergencies. As a result, **HR 3448** was introduced, and was passed on December 12, 2001.<sup>105</sup> The Senate passed **HR 3448** by voice vote on December 20, 2001 after it substituted the text of S 1765.<sup>106</sup> The House adopted the conference report on May 22, 2002, and the Senate cleared the bill on May 23, 2002.<sup>107</sup> The President signed the bill into law on June 12, 2002.<sup>108</sup>

The law contains several key provisions. Section 121 authorizes \$1.15 billion in FY2002, as well as unspecified sums in subsequent years for the Department of Health and Human Service (HHS) to expand its supplies of medicines and other vaccines to be used to respond to a terrorist attack involving chemical, biological, nuclear, or radiological devices. Section 319C-1 authorizes \$1.6 billion in FY2003 to state and local organizations to improve preparedness and planning, laboratory capacity, train healthcare workers, as well as develop new drugs, vaccines, and therapies to respond to an attack. In addition, section 351A tightens controls on individuals who possess and handle dangerous biological agents and toxins. Furthermore, section 351A requires that a national database be constructed to contain the names and other information of individuals who possessed, used, or transferred certain dangerous toxins or agents.

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105 Austin, Jan. "Congressional Quarterly Almanac Plus, 2002." CQ Press, Washington DC. 2002. pg.10-10.

106 Ibid

107 Ibid

108 Public Law 107-188, Public Health Security and Bioterrorism Preparedness and Response Act Of 2002, which was signed into law on June 12, 2002. Available at: <http://www.access.gpo.gov/nara/publaw/107publ.html>

Section 317R increases the funding of food safety efforts, specifically at points of entry into the United States. In addition, section 321 requires foreign drug manufacturers to register annually before being allowed to import drugs and medical devices into the United States. Section 401 also authorizes \$160 million in FY2002 to protect the safety of drinking water in the United States. Furthermore, section 1433 requires that drinking water systems across the country provide the EPA with assessments of their vulnerability to terrorist attacks, as well as plans to prepare and respond to terrorist attacks on their particular water system.

Section 127 of the Public Health Security and Bioterrorism Preparedness and Response Act discusses the storage and the distribution of potassium iodide tablets in order to provide adequate protection in response to a nuclear incident. These tablets will be stored in large quantities at schools and hospitals within twenty miles of a nuclear power facility for distribution by state and local officials during an emergency. In addition, large quantities of tablets will be stored strategically to effectively respond to a nuclear incident. The law also states that within one year of the date of enactment the President, in consultation with other members representing the appropriate federal, state, and local agencies, shall establish guidelines for the stockpiling, distribution, and utilization of potassium iodide tablets in response to a nuclear incident. Finally, section 152 instructs the Secretary of Energy and the administrator of the National Nuclear Security Administration to outline research objectives relevant to the rapid detection and identification of materials that may be used in a chemical, biological, nuclear, or radiological attack. The law requires that these agencies submit a report no later than 180 days after the enactment of the law.



In conclusion, the Public Health Security and Bioterrorism Preparedness and Response Act deals primarily with issues and scenarios common to a biological attack, but the law does make some reference to nuclear agents that were displaced either by an attack or by the accidental release from a nuclear power facility. The law does call for the Secretary of Energy and the administrator of the National Nuclear Security Administration to outline research objectives to increase the likelihood of detecting a nuclear attack. However this law, like the others, deals primarily with the detection and response to an attack involving nuclear agents.

## Enhanced Border Security and Visa Entry Reform Act

The need for better border security was evident following the September 11, 2001 attacks. The House version of the Enhanced Border Security and Visa Entry Reform Act, **HR 3525**, passed in early December 2001, but its companion bill in the Senate had been stalled.<sup>109</sup> In March of 2002, the House attached several provisions to a separate bill, **HR 1885**.<sup>110</sup> However, it soon became clear that by trying to combine both bills, the passage was only being further complicated. The Senate then turned back to the House's stand-alone measure and passed **HR 3525**.<sup>111</sup> The President signed the bill into law on May 14, 2002.<sup>112</sup>

The Enhanced Border Security and Visa Entry Reform Act of 2002 was a response to what many perceived as weaknesses in the immigration system. Therefore, the bill did not focus on any of the physical security weaknesses in the United States border protection. The law contained several key provisions spanning three categories of border controls, the visa system, and travel documents. One of the main components of the law, section 101, was the increase in the number of Immigration and Naturalization Service (INS) inspectors. The department was authorized to add 200 inspectors and 200 investigative personnel each year for the next five years beginning with its inception in 2002. Section 102 authorized \$150 million in computer upgrades to replace the outdated and antiquated computer systems. The main purpose of the upgrades was to efficiently check travel documents such as visas and passports. In addition, the wages of border

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109 Austin, Jan. "Congressional Quarterly Almanac Plus, 2001." CQ Press, Washington DC. 2002. pg. 13-7.

110 Ibid

111 Ibid

112 Public Law 107-173, Enhanced Border Security and Visa Entry Reform Act of 2002, which was signed into law on May 14, 2002. Available at: <http://www.access.gpo.gov/nara/publaw/107publ.html>

agents and investigative personnel were increased, as well as adding additional training requirements for officers.

The existing visa system was also a target of the new law. Section 306 prohibited the issuance of temporary visas for business or travel to citizens from countries that regularly sponsor terrorism because they were deemed to be high risk. Regulations for student visas were also changed. As a result of section 501, schools who admitted foreign students were now required to track student participation in activities and notify government officials when foreign students did not attend class. In addition, section 204 required that the Chimera database be constructed. The database would be used to share information on individuals with terrorist ties among the various federal agencies, therefore allowing officials to conduct more thorough background checks on individuals attempting to enter the United States. The system would also include a watch list with the names of suspected terrorists.

Finally, the system dealing with travel documents and manifests was also altered slightly. Section 307 requires countries who participate in the Visa Waiver Program to inform government officials immediately concerning the thefts of blank passports. In addition, section 303 requires a program to be commissioned to implement high-tech, machine readable visas. The program requires that all visas issued by the Department of State be machine readable, tamper resistant, and contain biometric identifiers. Furthermore, section 402 requires all incoming or outgoing commercial aircraft and vessels to supply customs officials with manifests listing all the passengers and crew onboard.

The Enhanced Border Security and Visa Entry Reform Act of 2002 helps to create several standards that are necessary to protect the United States borders from terrorists or criminal organizations. However, the law makes no direct reference to nuclear terrorism. The law does not deter or prevent nuclear terrorism directly, but it does implement measures that are designed to stop terrorists from entering the country with fraudulent travel documents. In addition, as was similar in the Patriot Act, this law increases the number of Immigration and Naturalization Inspectors and provides funding for computer system upgrades. While these provisions are improvements over the current system, many more initiatives must be taken to adequately secure the borders of the United States. Furthermore, the law makes no suggestions on how to physically secure the border from lethal items, such as improvised nuclear devices or other harmful weapons. The law focuses primarily on people rather than the transport of goods. The Enhanced Border Security and Visa Entry Reform Act does not address the response to a terrorist event involving nuclear terrorism.

## Port Security Act

The need for a comprehensive plan to protect the nation's 361 commercial seaports was clear following the attacks of 9/11. The Port Security Act of 2002 expanded and formalized the preeminent role assumed by the Coast Guard. Experts argue that the impact on safety and counterterrorism is likely to be minimal due to a lack of money.<sup>113</sup> Much debate surrounded the bill concerning the estimated \$4 billion in funding needed over six years. However, both the House and the Senate were able to agree on the bill and cleared it on November 14, 2002, after adopting a compromised bill.<sup>114</sup> The bill was signed into law on November 25, 2002

The Port Security Act has several main provisions. First, section 70102 requires that the Coast Guard conduct vulnerability assessments of US seaports, vessels, and other shoreline facilities.<sup>115</sup> These facilities include, but are not limited to, nuclear power plants and chemical facilities. Once the assessment has been conducted, the Coast Guard is required to develop plan to secure any vulnerabilities that were identified. Furthermore, section 70112 calls for the creation of regional security advisory committees to coordinate planning amongst law enforcement, intelligence, U.S. Customs, Coast Guard, and other personnel in a predetermined geographic area. In addition, section 70106 requires the Coast Guard to establish response teams. These teams will be made up of maritime safety and security personnel that can be deployed rapidly in the event of a terrorist attack. These teams are to be stationed strategically amongst U.S.

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113 Austin, Jan. "Congressional Quarterly Almanac Plus, 2002." CQ Press, Washington DC. 2002. pg. 19-5.

114 Ibid

115 Public Law 107-295, The Maritime Transportation Security Act of 2002, which was signed into law on November 25, 2002. Available at: <http://www.access.gpo.gov/nara/publaw/107publ.html>

seaports. Additionally, section 107 was included in the law to allow Coast Guard personnel to act as armed “sea marshals” to board incoming vessels to respond to or prevent acts of terrorism.

Funding issues were also dealt with in the Port Security Act. Section 70107 created a new grant program through fiscal year 2008 to assist states and municipalities in upgrading security and response measures at local ports. Additionally, the law authorized \$15 million per year for research and development of technology to detect suspicious cargo and another \$5.5 million was authorized per year to train maritime security workers. The Department of Transportation is tasked with the development and implementation of a national transportation security identification card. The cards would be used for identification purposes to limit access to restricted areas within port facilities.<sup>116</sup> In addition, section 70108 requires the Coast Guard to conduct foreign port assessments to determine security vulnerabilities that exist at ports abroad.

Additionally, the Port Security Act addresses container security issues. Section 111 requires that the Department of Transportation develop and maintain an anti-terrorism cargo identification system, as well as a tracking and screening system for containerized cargo shipped through U.S. ports. In addition, the department is required to develop standards for container locks and seals to assist with the detection of tampering. Furthermore, section 108 tasks the U.S. Customs Service with the responsibility of requiring shipping companies to provide electronic information on cargo coming into or leaving the United States. Additionally, section 70113 requires the Department of Transportation establish a maritime intelligence program to collect and analyze

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116 Austin, Jan. “Congressional Quarterly Almanac Plus, 2002.” CQ Press, Washington DC. 2002. pg. 19-5.

information on vessels operating in U.S. territorial waters, which were extended from three miles offshore to twelve miles.<sup>117</sup> Section 112 also required that tracking systems or the use of transponders must be used to identify vessels and their locations operating in U.S. territorial waters. In addition, section 502 authorized that the Coast Guard receive \$6 billion for operations in FY2003.

Under Subtitle IV, entitled *Miscellaneous*, in Chapter 701, entitled *Port Security*, the procedure that describes the allocation of grants is described. A grant is awarded to help increase the ability of the Customs Service to inspect or target inspection goods carried on any vessel that will arrive, or has arrived, or is at any port in the United States. Additionally, this section authorizes the purchase of equipment to detect various other harmful items. The law states that the equipment should be able to accurately detect explosives, chemical or biological agents, and nuclear materials that could be used to commit terrorist acts against the United States. In addition, this section suggests that scintillation-based detection equipment capable of attachment spreaders, which are used to signal the presence of nuclear materials during the unloading of containers, be purchased.

While progress has been made in regard to port security, provisions for deterring or preventing nuclear materials or nuclear weapons in the Port Security Act of 2002 are almost non-existent. It is important that the Port Security Act be effective because one of the 361 seaports in the United States is the most likely point of entry for nuclear materials or weapons. Container shipments are preferred by terrorists because only two to three percent of cargo containers are inspected by security personnel. Nearly ten percent of the

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117 Austin, Jan. "Congressional Quarterly Almanac Plus, 2002." CQ Press, Washington DC. 2002. pg. 19-5.

containers coming into US ports would have to be inspected to serve as at least a credible deterrent. The provisions made in the law are along the right track but, because the Port Security Act does not contain provisions for an increase in container searches, the law may not adequately defend against nuclear terrorist threats. In addition, reports suggest that the funding is not available for initiatives to secure seaports. Furthermore, billions of dollars are required to repair or replace the Coast Guard's aging fleet that is needed to serve a central role in the deterrence or prevention of shipments of nuclear weapons and materials into the United States from terrorist organizations abroad. One of the most effective measures to be adopted to protect against a nuclear attack was the initiative that involved the use of container lock and seals as well as the use of electronic tracking equipments. Once again, this law does little to prevent or deter a terrorist attack using a nuclear device.

The Port Security Act does little for the protection of the United States as well. The law puts into motion many initiatives; but these initiatives are only studies of potential vulnerabilities, not courses of action to address the vulnerabilities that have been identified. The law also helped to make grant money available to state and local governments to help secure ports, but it is slow to implement technologies that would be effective in protecting against nuclear threats. The law does address the response to maritime terrorist attacks. The law called for the creation of Maritime Safety and Security teams to respond to terrorist incidents. These teams would respond to incidents either by force or as recovery personnel. However, this role is currently vaguely defined.



## Homeland Security Act

The idea of combining several federal agencies to combat terrorism, as well as clarifying lines of authority, began in the House and the Senate in 2001, following the 9/11 attacks.<sup>118</sup> In May of 2002, the Senate Governmental Affairs Committee approved **S 2452** to create a cabinet level Homeland Security Department, as well as a separate Whitehouse entity that dealt specifically with homeland security.<sup>119</sup> Much debate raged over personnel provisions in the new bill and slowed the legislative process. However, the House did pass a new version of the bill, **HR 5710**. A final compromised version of the bill, **HR 5005**, was passed on November 19, 2002. The Homeland Security Act of 2002 was signed into law a little more than one year after the attacks of September 11, 2001 on November 25, 2002.<sup>120</sup>

The Homeland Security Act of 2002 created the Homeland Security Department, which many hoped to be the all inclusive bill for homeland security. The law incorporated all or parts of twenty-two federal agencies that were divided into four directorates: Information Analysis and Infrastructure Protection, Science and Technology, Border and Transportation Security, and Emergency Preparedness and Response. The mission of the Homeland Security Department is to prevent terrorist attacks within the United States, reduce the nation's vulnerability to such attacks, and to make sure that the country is prepared to deal with any disaster that results from an attack, which is described in Section 101. The law also describes the hierarchy of the

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118 Austin, Jan. "Congressional Quarterly Almanac Plus, 2002." CQ Press, Washington DC. 2002. pg. 7-3.

119 Ibid.

120 Public Law 107-296, The Homeland Security Act of 2002, which was signed into law on November 25, 2002. Available at: <http://www.access.gpo.gov/nara/publaw/107publ.html>

organization, human resources, union rights, civil rights, and employee's rights. In addition, several miscellaneous provisions are found within the law.

First, section 901 establishes the Homeland Security Council within the Executive Office of the President to advise the president of homeland security matters. Section 1111 states that the Bureau of Alcohol, Firearms, and Tobacco is to be transferred to the Department of Justice and Title XIV requires that the Transportation Security Administration develop a plan to arm pilots. Additionally, section 1503 requires Congress to review its committee structure and possibly reorganize to create permanent committees on Homeland Security.

Nuclear terrorism is only referenced briefly in this bill that was intended to redefine homeland security. More importantly, the law only discusses the response to a nuclear event, not the prevention or deterrence of the event itself. Nuclear terrorism is first discussed under Title V, which is *Emergency Preparedness and Response*. Section 501 discusses the creation of the Directorate of Emergency Preparedness, which is to be headed by the Under Secretary for Emergency Preparedness and Response. Section 502 outlines the responsibilities of the directorate and the Under Secretary. It states that the Under Secretary should help ensure the effectiveness of emergency response to terrorist attacks. As with other sections of the bill, it is vaguely defined, and offers little guidance. Section 502-2 outlines the duties of the *Nuclear Incident Response Team*. The team duties include establishing standards and certifying that those standards have been met, conducting joint and other exercises to evaluate training and performance, as well as providing funds to the Department of Energy and the Environmental Protection Agency as deemed appropriate for planning exercises, training, and equipment. Furthermore, the

Nuclear Incident Response Team would be responsible for overseeing the Metropolitan Medical Response System and coordinating other federal resources in the event of a terrorist attack or a disaster. Once again, the text of the bill provides little direction and is left intentionally vague.

Section 504 specifically deals with the response to a nuclear attack or incident. The section is entitled *Nuclear Incident Response* and outlines briefly the types of agencies and responses that should occur after the detonation of a nuclear device. Once again the Nuclear Incident Response Team is discussed. It will operate under the direction of the Secretary of the Department of Homeland Security and be an organizational unit of the DHS. The team, as is mentioned in Section 504-b, will be organized by primarily using the entities found within the Department of Energy and the Environmental Protection Agency. Section 506 offers a definition of the Nuclear Incident Response Team, while Section 508 discusses the use of the national private sector networks, by the Secretary, in emergency response. In short, this section states that the Secretary should use private sector networks in response to a nuclear, chemical, biological or radiological attack whenever possible.

Further discussion of nuclear terrorism found within the Homeland Security Act of 2002 is found in Title VIII, which is entitled *Coordination with Non-Federal Entities, Inspector General, United States Secret Service, Coast Guard, General Provisions*. Section 852, entitled *Procurements for Defense or Recovery from Terrorism or Nuclear, Biological, Chemical, or Radiological Attack*, outlines briefly the type of response that should occur after the detonation of a nuclear device. Finally, Section 858 requires that the heads of departments “identify new entrants into the federal marketplace” by

conducting market research for the purpose of identifying new or existing organizations that would further enhance the defense against, or the response to, an attack involving nuclear, biological, chemical or radiological weapons. This section is the only section dealing with nuclear weapons that directly addresses the defense against an attack.

However, the reference is also vague in nature.

As is clear with the excerpts from the original text of the bill, little, if anything, has been done to put into place measures that would help to deter or prevent a nuclear attack. The Homeland Security Act establishes a massive bureaucracy by moving all or parts of twenty-two federal agencies, with approximately 180,000 personnel, under the DHS, with little thought of organizational biases or jurisdictional disputes.

The text in the bill deals more specifically with the response to an attack or event rather than the prevention of an attack involving nuclear weapons. It appears that the one of the main focuses of the Homeland Security Act of 2002 is the response to a terrorist attack or event. However, the language of the bill describing emergency preparedness and response to a terrorist incident is extremely vague. The bill addresses only response capabilities to such a nuclear attack leaving detection, deterrence, and protection only mildly addressed.

## **Project BioShield Act**

The purpose of the Project BioShield Act is to amend the Public Health Service Act to provide protection and countermeasures against chemical, biological, radiological, and nuclear agents that may be used in a terrorist attack against the United States. The bill was introduced in the Senate as **S 15**, which was passed in May 19, 2004.<sup>121</sup> The House cleared the bill on July 14, 2004, and the President signed the bill into law on July 21, 2004.<sup>122</sup>

The law has several key provisions, such as increasing the strategic stockpile. Section 510 authorizes \$5.6 billion from FY2004 through FY2013 to purchase bioterrorism countermeasures for the Strategic National Stockpile. Section 319F also increases research and development initiatives for the Department of Health and Human Services (HHS). This section allows HHS to use expedited procedures for approving grants for research and development of countermeasures for use against chemical, biological, nuclear, and radiological agents. In addition, HHS is given the authority to distribute drugs and treatments that are not yet approved by the FDA in the event of a national emergency involving chemical, biological, nuclear, and radiological agents.

The law makes several specific references to nuclear agents that may result due to an act of nuclear terrorism. Section 319F-1 entitled *Authority for use of Procedures Regarding Qualified Countermeasure Research and Development Activities* deals with the jurisdictional duties of the various federal, state and local agencies. However, the law

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121 Austin, Jan. "Congressional Quarterly Almanac Plus, 2004." CQ Press, Washington DC. 2004. pg. 10-3.

122 Public Law 108-276, the Project BioShield Act of 2004, which was signed into law on July 21, 2004. Available at: <http://www.access.gpo.gov/nara/publaw/108publ.html>

specifically states that the agency must treat, identify, or prevent harm from any biological, chemical, radiological, or nuclear agent that may cause a public health emergency affecting national security. This section goes on to outline the coordination with federal, state, and local agencies. A subsection of Section 319F-1 outlines additional authority regarding the procurement of certain biomedical countermeasures and the availability of a special reserve fund. This subsection gives additional authority to the secretary than what is granted by the Homeland Security Act of 2002 to treat, identify, or prevent harm from any biological, chemical, radiological, or nuclear agent identified as a material threat.

In addition Section 319F-2, entitled *Determination of Material Threats* requires that the DHS Secretary assess current and emergent threats of biological, chemical, radiological, or nuclear agents and determine which of these agents present a material risk against the United States. Furthermore, in the assessment and determination process, the secretary of the DHS is required to use all relevant information to which he or she is entitled, meaning that it should be an all source investigation. Additionally, all relevant information should be used regardless of its level of classification, as relating to threats of biological, chemical, radiological, or nuclear agents.

Section 319F makes reference to additional countermeasures in the subsection entitled *Subsequent Specific Countermeasures*. This section describes the procurement of a security countermeasure. It states that a countermeasure is appropriate for inclusion in the stockpile if it provides improved safety and effectiveness to enhance preparedness or to respond to a threat associated with biological, chemical, radiological, or nuclear agents.

Section 510, entitled *Procurement of Security Countermeasures for the Strategic National Stockpile* makes reference to and describes threat assessment capabilities.

Subsection D-1 discusses terror threat assessment under the Security Countermeasures Program. This subsection allocates funds for the necessary analysis capabilities required to collect and disseminate intelligence for biological, chemical, radiological, or nuclear threat assessment. Section 564, entitled *Authorization for Medical Products for use in Emergencies*, deals with emergency uses, product approval, as well as definitions in the declaration of an emergency. An emergency is defined as a domestic, military, or national security situation, depending on the circumstances. In order to declare an emergency, an attack must occur or a heightened risk of attack involving chemical, biological, radiological, or nuclear agents must be present.

The Project BioShield Act offers some guidance on threat analysis; however, its primary focus is on the detection of an attack and the recovery from such an attack. A section 319F deal specifically with jurisdiction issues only after an attack has occurred, and discusses the agencies that should respond to that particular type of an attack. Section 319F-2 makes progress in addressing emerging threats; however, it does not make reference to measures that could be used or implemented to deter or prevent an act of nuclear terrorism. Again, like in the other instances, this law deals with the response to a nuclear attack, not the prevention of the attack itself. The Project BioShield Act is reactive rather than proactive.

## **Intelligence Reform and Terrorism Prevention Act**

The failures of the intelligence agencies to discover the impending attack on the United States on September 11, 2001 prompted Congress to seek answers. The Intelligence Reform and Terrorism Prevention Act was the largest reorganization of the intelligence community since World War II. Congressional action was ultimately determined by the recommendations that were made by the 9/11 Commission.<sup>123</sup> The House introduced **HR 10**, but would later adopt the conference report.<sup>124</sup> The final bill included many provisions that dealt with more than just intelligence. The House and Senate would clear the bill and the President signed it into law on December 17, 2004.<sup>125</sup>

The intelligence reform bill is wide ranging. It contains provisions that deal with the national intelligence director, transportation security, border security and immigration, information sharing, improvement of analysis and coordination, civil liberties, and many other intelligence changes. Section 1001, subtitle A establishes the position of the Director of National Intelligence (DNI) to serve as the head of the entire U.S. intelligence community. The DNI is to be appointed by the President and confirmed by the Senate. Section 1011 charges the DNI with ensuring that all federal departments and agencies, the Joint Chiefs, and the relevant committees in Congress have access to crucial intelligence to carry out their day to day missions. The DNI also assumes the role of monitoring the implementation of intelligence operations. Section 1096 authorizes a staff of up to 500 individuals to operate the DNI office. Additionally, the law requires that the DNI create a vast intelligence network in order to share information from agency

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123 Austin, Jan. "Congressional Quarterly Almanac Plus, 2004." CQ Press, Washington DC. 2004. pg. 11-3.

124 Ibid

125 Public Law 108-458, the Intelligence Reform and Terrorism Prevention Act of 2004, which was signed into law on December 17, 2004. Available at: <http://www.access.gpo.gov/nara/publaw/108publ.html>



to agency through uniform procedures, technology standards, and polices of information sharing.<sup>126</sup>

In order to improve analysis and coordination of intelligence, section 103 requires the creation of the National Intelligence Council, which is also tasked with the creation of National Intelligence Estimates. Section 1022 establishes the National Counterterrorism Center (NCC), which is in the office of the DNI, and is responsible for analyzing, as well as integrating intelligence on international terrorism and counterterrorism. The NCC will also absorb the Terrorist Threat Integration Center (TTIC). In addition, the law also suggests the establishment of the National Counter-proliferation Center, which is to be created by the President, and would serve as the primary organization within the government for analyzing and integrating intelligence dealing with the proliferation of weapons of mass destruction. Other changes were made under subtitle E that concern education, training, civil liberties, and open source intelligence.

Title IV, entitled *Transportation Security*, deals with transportation security issues. Section 4001 requires the Secretary of Homeland Security to develop a national strategy for transportation security, as well as a damage recovery plan after the occurrence of an attack. In addition, section 4012 requires that the DHS begin to deploy biometric technology and requires that the Transportation Security Administration implement an advanced screening system that runs suspect names through “no fly” lists as well as the integrated terrorist watch list simultaneously. The law also requires

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126 Austin, Jan. “Congressional Quarterly Almanac Plus, 2004.” CQ Press, Washington DC. 2004. pg. 11-5.

increased employee screening, more thorough baggage screening, the use of air marshals, and improved maritime security.<sup>127</sup>

The section of the law that addresses border security and immigration is directly related to the recommendations made by the 9/11 Commission.<sup>128</sup> Section 5202 authorized the DHS to add 2,000 full time border patrol agents each year until 2010 or totaling approximately 14,000 new hires. Furthermore, section 7203 requires that all visa applicants be interviewed in person by a U.S. consular official. In addition, section 7202 created a Human Smuggling and Trafficking Center with the sole mission of reducing terrorist entries into the United States, while addressing human smuggling as well. Additionally, section 7203 adds approximately 150 new consular officers. Section 7205 suggests better agreements should be made with foreign nations concerning fraudulent travel documents. While section 7206 introduces the Immigration Security Initiative and section 7220 implements higher levels of identification standards.

Nuclear terrorism is only referenced briefly in the Intelligence Reform Act. The threat of nuclear terrorism is first discussed under Subtitle C, *Air Cargo Security*. Section 4054, entitled *Report on International Cargo Threats*, requires that the Secretary of Homeland Security, in coordination with the Secretary of Defense and the Administrator of the Federal Aviation Administration, prepare a report for several committees in the House and the Senate. The report must contain a description of the current procedures in place that address the threat of an inbound, all-cargo aircraft from outside the United States that intelligence sources indicate could carry an explosive, incendiary, chemical, biological, or nuclear device. In addition, the report must contain an analysis of the

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<sup>127</sup> Ibid

<sup>128</sup> Ibid

potential for establishing secure facilities along established international aviation routes for the purposes of diverting and securing aircraft that may contain hazardous cargo.

Section 6803, entitled *The Participation in Nuclear and Weapons of Mass Destruction Threats to the United States*, found under Subtitle I, entitled the *Weapons of Mass Destruction Prohibition Improvement Act of 2004*, amends several lines in the Atomic Energy Act of 1954. The individual must willfully participate in or knowingly provide material support or resources to a nuclear weapons program of a foreign terrorist power or attempt to do so.<sup>129</sup> This also applies to other weapons of mass destruction programs.<sup>130</sup> In addition, whomever, without lawful authority, develops, possesses, attempts or conspires to develop or possess a radiological weapon, threatens the use of or uses the weapon against any person within the United States will be prosecuted to the fullest extent of the law.

The Intelligence Reform and Terrorism Prevention Act of 2004 makes limited recommendations to prevent or deter a terrorist act involving a nuclear weapon or device. However, the act does require officials in the Department of Homeland Security, the Department of Defense, and the Federal Aviation Administration to compile a report within 180 days of the enactment of this legislation to assess the situation involving nuclear terrorism. While there is a specific request for the report, the text describes the criteria of the report vaguely. Furthermore, even if the report is written, there are not any penalties listed if the report is late and there is no guarantee that action will be taken to address the problems identified in the report. It appears that one agency is simply

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<sup>129</sup> A nuclear weapons program is defined as a program or plan for the development, acquisition, or production of any nuclear weapon or weapons.

<sup>130</sup> A weapon of mass destruction program is defined as a program that is used to develop any chemical, biological or radiological weapons.

“passing the buck” to another. Section 6803 goes through great lengths to define the participation in threats involving nuclear weapons, as well as other weapons of mass destruction. However, it does nothing to prevent or deter a nuclear attack. This section deals more with the definitions of offenses that are needed for the prosecution of individuals planning or executing an attack with such weapons, rather than addressing the need for measures to prevent or deter an attack.

## **IX. Findings**

As is demonstrated with the various summaries and analyses of the eight public laws that were identified and examined for this research, there were no significant measures adopted to deter or prevent an act of nuclear terrorism. The USA Patriot Act of 2001 makes sufficient progress towards criminal investigation of crimes related to terrorism, money laundering issues, and other homeland security issues, but does little to prevent or deter an act of nuclear terrorism. The Aviation and Transportation Security Act of 2001 takes great strides to secure civil aviation in the United States through federalization. However, the law does not address any concerns involving nuclear terrorism directly. While the measures that the law has introduced are effective in other areas of homeland security, they do little to directly deter or prevent acts of terrorism involving nuclear weapons and materials.

The Public Health Security and Bioterrorism Preparedness and Response Act of 2002 primarily deals with measures that respond to attacks involving biological and chemical agents. The law does contain provisions that address the response to a nuclear attack or incident. However, the law does not contain any provisions that would prevent or deter an act of nuclear terrorism. The Enhanced Border Security and Visa Entry Reform Act of 2002 incorporates moderate measures of prevention and deterrence for nuclear terrorism. However, the law does not make a direct reference regarding nuclear terrorism. But the procedures, and funding that it implements will undoubtedly contribute to the United States' homeland security efforts.

The Port Security Act of 2002 makes marginal progress in defending the United States from a terrorist attack originating in one of its 361 seaports. The provisions found within the law are along the right track. However, more measures need to be added or incorporated to adequately defend against an attack involving nuclear weapons. While the law increases port defenses at a marginal level, it does little to prevent or deter an act of nuclear terrorism. The Homeland Security Act of 2002 initiates the creation of the Department of Homeland Security. The agency that the law creates was comprised of 22 federal agencies and 180,000 personnel. While law addresses the need for a central agency to handle homeland security issues, it has a broad focus. The law does not specifically address the deterrence or prevention of an attack involving nuclear weapons, but it does make reference and recommendations to the response of this type of attack.

The project BioShield Act of 2004 makes limited progress in the defense, deterrence, prevention of, and response to an attack involving nuclear weapons. This law primarily focuses on the detection of an attack, and the response to that particular attack. While the law makes minimal reference to detecting emerging threats, it does not specifically and adequately address the prevention or deterrence of a nuclear attack. The law does deal with the response capabilities and duties to a nuclear attack.

The Intelligence Reform and Terrorism Prevention Act of 2004 was introduced, for the most part, because the 9/11 Commission made many recommendations to policy makers about revamping the intelligence community. The law does not make any specific recommendations or references that would deter or prevent an act of nuclear terrorism. However, the legislation recommends that the National Counter Proliferation Center be created to deal with nuclear proliferation based issues. The center is responsible for the

dissemination of intelligence related to the proliferation of weapons of mass destruction. Of the many public laws that were examined in this research, the Intelligence Reform and Terrorism Prevention Act is the only law that specifically calls for the creation of a center to focus solely on nuclear proliferation. However, the center is still in its infancy; it was established on December 21, 2005. The effectiveness of this center cannot yet be determined.

The public laws were systematically analyzed to determine if they were appropriate, reasonable, and relevant to threat of nuclear terrorism based on three separate factors. These factors included prevention and deterrence, protection, and response. Other unintended benefits were also taken into consideration. Table 1 shows a summary of the findings described above.

**Table 1**

<i><b>Public Law</b></i>	<i><b>Deterrence</b></i>	<i><b>Protection</b></i>	<i><b>Response</b></i>	<i><b>Other Benefits</b></i>
USA Patriot Act	minimal	moderate	good	some
The Aviation and Transportation Security Act	minimal	minimal	moderate	yes
Public Health Security & Bioterrorism Preparedness & Response Act	none	none	moderate	some
Enhanced Border Security & Visa Entry Reform Act	moderate	minimal	minimal	yes
Port Security Act	minimal	minimal	minimal	some
Homeland Security Act	minimal	minimal	moderate	yes
Project BioShield Act	none	moderate	moderate	some
Intelligence Reform & Terrorism Prevention Act	moderate	moderate	minimal	yes

Note: This table uses a scale from none to excellent, with excellent representing the highest score.

The public policy response to 9/11 can best be characterized as reactive rather than proactive. Policy is considered to be reactive directly following the attacks, meaning that it focuses primarily on vulnerability reduction. An excellent example of this type of policy and approach is the manner in which the United States attempted to secure its civil aviation directly following 9/11. The policy was reactive, not proactive, because it was in

response to an attack that had already occurred. The evidence suggests that policies were not being implemented or introduced due to risk based analysis. It was not until recently, when Secretary Michael Chertoff took the helm at the Department of Homeland Security that the agency, and subsequently its policy, began to take more of a risk based approach.<sup>131</sup> A risk based approach would allow the United States to take a more proactive approach in dealing with counterterrorism. Again, this evidence suggests that the United States is not adequately addressing its counterterrorism vulnerabilities.

Analysis of The Aviation Transportation Security Act of 2001 indicates that the Congress attempted to secure civil aviation through federalization. The law was reactive because it addressed only the vulnerabilities that were revealed on September 11, 2001 and lacked a forward looking mission. It focused solely on addressing the vulnerabilities at present, but did little for long term planning. The law requires that baggage and passenger screening be done and supervised by federal employees. In addition, other key provisions of the law address the hardening of cockpit doors, air marshals, and more adequate flight crew training. These provisions address the means that the September 11 hijackers used to bypass aviation security, smuggle weapons onto aircraft, over power the crew, and finally take over the aircraft. The law does not adequately address other issues involving aviation security. Furthermore, the law was essentially designed to counter similar tactics as were used on September 11, 2001. The law does not address other tactics used by terrorist organizations.

The Enhanced Border Security and Visa Entry Reform Act of 2002 also is reactive rather than proactive in nature. Once again, this law addresses many of the

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131 Willis, Henry. "Analyzing Terrorism Risk." RAND Corporation. Santa Monica, CA. 2005. Page 2.



tactics that the 9/11 hijackers used to gain access into the United States. The act was a response to the weaknesses that were identified in the immigration system as a result of the United States government's self study following September 11, 2001. The Enhanced Border Security and Visa Entry Reform Act of 2002 does not incorporate a forward looking strategy.

In addition to the specific references to the Aviation Transportation Security Act of 2001 and the Enhanced Border Security and Visa Entry Reform Act of 2002, each of the laws that were analyzed contain measures to respond to various types of terrorist attacks. Many laws do not incorporate any preventive measures that would serve as deterrence to an attack. This is another example of how the laws are reflective of a reactive approach.

Currently, a public law does not exist with the sole purpose of securing air cargo. While the most likely method of transport for nuclear materials or weapons is in containerized cargo or cargo transported in container on ships, air cargo or cargo transported by aircraft still presents a significant risk. In addition, the need for a bill that addresses air cargo security further supports the assertion that the homeland security policy is reactive rather than proactive. In the months following 9/11, the United States government took every conceivable step to secure civil aviation through passenger and baggage screening. However, even though every passenger and bag is screened before boarding the aircraft, the tens of thousands of tons of cargo traveling in the bellies of commercial aircraft are not screened.

Some members of Congress perceive air cargo security to be a legitimate risk to aviation, as well as U.S. national security. They have introduced bills into the House and

the Senate to address the issues surrounding air cargo security, but the bills were stagnating in both chambers. **S.165** was passed by voice vote on May 8, 2003, but was cleared when the session of Congress ended. The bill never became a law. In addition, **HR 1103** was introduced by Representative Adam Schiff from California on March 5, 2003 and was referred to the Aviation Subcommittee on March 6, 2003. **HR 1103** was also cleared when the session of Congress ended.

These bills had provisions that would increase TSA inspection of all air shipping facilities, freight forwarders, couriers, and other companies that arrange and consolidate freight shipping.<sup>132</sup> Furthermore, the bill instructs the TSA to establish an industry wide database of cargo shippers, creates a security training program for air cargo handlers, requires shippers to have a TSA security plan in place, and permits pilots to carry firearms.<sup>133</sup> While each of these provisions would contribute to air cargo security, much more remains to be done. The bills for air cargo security have all failed and the United States' need for increased levels of air cargo security have not been met.

The public policy response to 9/11 adds layers to the government bureaucracy, thus further complicating matters. The two most prevalent examples of this unintentional consequence are the Homeland Security Act of 2002 and the Intelligence Reform and Terrorism Prevention Act of 2004. The Homeland Security Act of 2002 incorporated all or parts of twenty-two federal agencies that were divided into four directorates: Information Analysis and Infrastructure Protection, Science and Technology, Border and Transportation Security, and Emergency Preparedness and Response. These directorates house more than 180,000 personnel. As was evident with the Hurricane Katrina

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132 Austin, Jan. "Congressional Quarterly Almanac Plus, 2002." CQ Press, Washington DC. 2002. pg. 20-9

133 Austin, Jan. "Congressional Quarterly Almanac Plus, 2002." CQ Press, Washington DC. 2002. pg. 20-10

response, jurisdictional uncertainties plagued federal organizations such as DHS and FEMA, in addition to state and local governments. These issues delayed response time, thus costing lives. The large size of the agencies, as well as the bureaucratic process, slows down decision making capabilities, and the response time to events or attacks.

The Intelligence Reform and Terrorism Prevention Act of 2004 also adds layers of bureaucracy to the intelligence community. The law fails to change some of the fundamental flaws found within the intelligence community. This law attempts to separate the Director of National Intelligence (DNI) from one particular agency, which it does, but does not give the DNI sufficient power and clout to administer many of the changes that the Intelligence Reform Act suggests or implements. Without a strong DNI with budget authority, the DNI is likely to be ineffective.

Furthermore, this law establishes centers that will also be used to help circumvent the stovepipe problem. A stovepipe problem is comprised of two things. First, it is when intelligence gathering has an end-to-end process from collection to dissemination through all disciplines. Second, the collection disciplines are separate from each other and are often in competition. However, these centers have their own limitations and are also likely to develop organization biases, which is another issue plaguing the intelligence community. As was the case with the other measures that the law suggests, these measures are only going to be as effective as the DNI who enforces or implements them. The law proposes or employs many measures that would be effective to better organize the United States intelligence community, but the law does not give the necessary power and authority to the DNI in order to manage all the changes. As a result, the new law

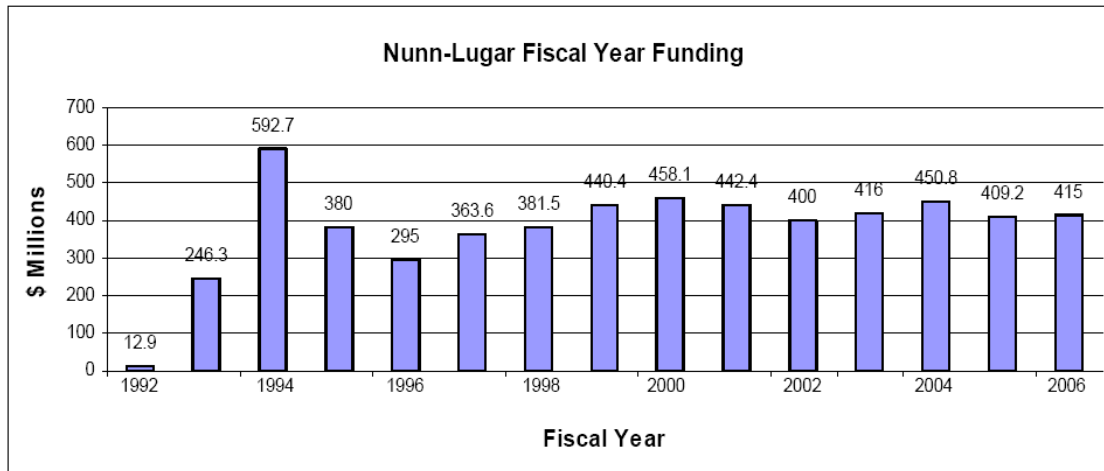
only adds another layer of the bureaucracy to further complicate and exacerbate intelligence problems.

Weak or marginal security practices still exist along the nation's borders, and in the nation's ports. The Enhanced Border Security and Visa Reform Act of 2002 made much needed improvements in border security, but the law did address many other prevalent issues. The law focused primarily on revamping the immigration system. It addressed concerns that unwanted individuals would be able to enter the country using fraudulent travel documents and did nothing to focus on the larger percentage of immigrants and illegal aliens entering the United States without any type of travel documents. The bill authorized the hiring of 1000 new inspectors and 1000 new investigative personnel over a period of five years, in addition to \$150 million in computer upgrades. While the bill did authorize additional personnel to monitor, track, and issue visas, it did not add additional personnel to the borders of the United States to enhance physical security elements. In other words, the law focused on fixing the visa problems identified by 9/11, but it did not address the thousands of illegal aliens crossing the borders.

The Port Security Act of 2002 makes slightly better improvements to the various realms of port security. Several of the key provisions in the law essentially bring the United States to a point in its security operations that should have been achieved before September 11, 2001. However the law does not make the necessary adjustments or recommendations that are needed to take the United States to the next level of port security. The current level of security was identified as a result of the investigations following 9/11. The law requires that the Coast Guard do vulnerability assessments of

the nation's 361 commercial seaports followed by a report on the vulnerabilities. The law also increased funding and expedited the grant process for port security. Furthermore, the law appropriates \$6 billion to the Coast Guard. As was the case with the Enhanced Border Security and Visa Reform Act of 2002, the Port Security Act of 2002 only elevates the level of port security slightly. The law does not address the need for radiation detection equipment at many of the nation's ports. Additionally, the law does not call for higher levels of container inspection. Furthermore, research has indicated the cost and the ease of implementation with the Department of Energy's Mega Ports Initiative is also troubling. The most interesting portion of the law is the creation of security maritime safety and response teams. These teams are tasked with the response to terrorist events, but the law does little to deter these types of tacks.

The Nunn – Lugar Cooperative Threat Reduction Program, which has been effective in dealing with Russian proliferation issues, has had its funding reduced in the years following September 11, 2001. Figure 1 shows the fiscal year funding trends for the Nunn-Lugar initiative. Even with the elevated risk of attack involving nuclear weapons, funding for the program has been decreased since the year 2000. The program receives less funding in the post 9/11 period, with elevated risk of nuclear attack, than it did during the pre 9/11 period.



**Figure 1 – Source: Nunn-Lugar Report**

Technologically advanced screening capabilities used to detect radioactive or nuclear materials, either in ports at home or abroad, are costly and limited in scope. Furthermore, they are also contingent upon the foreign country’s willingness to cooperate with the United States with its Mega Ports Initiative (MPI). According to the Government Accounting Office report 05-375, the Department of Energy’s MPI has had limited success in initiating work at ports identified as a high priority by its Maritime Prioritization Model because the Department of Energy has been unable to reach agreements with several key countries.<sup>134</sup> In addition, the Department of Energy does not have a comprehensive long term plan for its Mega Ports Initiative.<sup>135</sup> Furthermore, the Department of Energy has spent nearly \$14 million on installing equipment at only two ports. The entire program, which calls for the instillation of technology at a total of

<sup>134</sup> Government Accounting Office. GAO-05-375 –“Preventing Nuclear Smuggling”. March 2005. Page 3. Available at: <http://www.gao.gov/new.items/d05375.pdf>

<sup>135</sup> Government Accounting Office. GAO-05-375 –“Preventing Nuclear Smuggling”. March 2005. Page 4. Available at: <http://www.gao.gov/new.items/d05375.pdf>

twenty ports by 2010, has a total estimated price tag of \$337 million.<sup>136</sup> However, this cost projection is uncertain for many reasons. Furthermore this initiative is focused on ports and facilities abroad, but does little for domestic ports. In addition, the overall number of containers that are being screened is still far too little to serve as a creditable deterrent.

A layered approach to homeland security should be adopted and better utilized in order to secure the United States from attacks involving nuclear weapons and materials. One of the first layers of security against nuclear weapons should be containment and the physical security of facilities that house nuclear weapons and materials. This approach should be adopted both at home and abroad. Iran, North Korea, Pakistan, and the former Soviet Union pose the most serious threat. However, other states that possess nuclear weapons also pose a security risk. The Nunn-Lugar Initiative's funding should be increased so that the program can continue to contain or destroy large numbers of weapons of mass destruction for a relatively low cost compared to other programs and methods.

The second layer of security against nuclear weapons should begin in the ports of countries abroad. The most likely method of transportation for a nuclear weapon or nuclear material is through containerized cargo. An aggressive program, such as the Mega Port Initiative, is needed to install the necessary chemical, explosive, and nuclear detection equipment, as well as personnel at predetermined, high risk ports abroad. This method will serve as a first line of defense against a nuclear attack. It is important to

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136 Government Accounting Office. GAO-05-375 –“Preventing Nuclear Smuggling”. March 2005. Page 5. Available at: <http://www.gao.gov/new.items/d05375.pdf>

keep in mind that once a container carrying a nuclear weapon or nuclear material enters into one of the United States 361 domestic sea ports, the chance of a catastrophe is almost certain.

The third layer of security against a nuclear attack should include the Coast Guard. The primary task of the Coast Guard would be to stop and search high risk vessels well off the coast of the United States. In order for this layer to be effective, the Coast Guard would have to be outfitted with the necessary portable, explosive, and nuclear detection equipment. This third layer would serve as a buffer between the foreign port of departure and the domestic port of arrival. In addition to a large fleet of ships, well trained crews, and portable detection equipment, a solid maritime intelligence program would be necessary to identify threats.

The fourth and final layer of adequate security measures to protect against an attack involving nuclear weapons would be placing highly trained personnel, as well as explosive, chemical, and nuclear weapons detection equipment at all of the nation's 361 domestic seaports. This fourth layer would serve as a last line of defense against a nuclear attack. The purpose of this layer would be to identify and contain potentially hazardous cargo until the proper personnel could deactivate a weapon or properly dispose of the materials. However, if a weapon was to arrive in one of the 361 domestic ports, an explosion of the device would be catastrophic.

Each of these layers is required to have an adequate security against any harmful weapon that would be coming inbound to the United States through commercial shipping channels. These approaches must be adequately funded above all. Furthermore, great cooperation between the United States and foreign countries would be required in the



implementation of layer two. In addition, an intelligence program free of stovepipes and other inhibitive issues must support the missions of the agencies assigned to these tasks. It will require a multi-layered approach to adequately secure the United States from a nuclear attack, as well as any other type of attack.

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