Preventing the Unthinkable: An Overview of Threats, Risks, and US Policy Response to Nuclear Terrorism

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Abstract

Nuclear terrorism remains a threat to US national security. Although a nuclear terrorist attack seems to be an unlikely occurrence, evidence reveals that the possibility of terrorist groups acquiring a nuclear device, successfully transporting it to US soil and detonating it is a real concern for policy makers and security experts. This paper analyzes the current threat of nuclear terrorism, policy areas and issues worldwide that heighten the risk of a successful attack, and recommends policy responses to mitigate the likelihood of successful attack and reduce the impact of a hypothetical detonation. A nuclear attack would be extremely devastating to the US, in terms of the damage that it would do, the impact that it would have on the world economy, and the fear and panic it would instill in observers. Several possible scenarios exist where dedicated and well-organized terrorist groups could exploit weaknesses in nuclear stockpile security to obtain nuclear material. Such a group might also find a way to successfully deliver a nuclear weapon into the US and detonate it, despite efforts to secure borders and ports. However, “offensive” and “defensive” policy options can be implemented by the US which would help secure nuclear stockpiles across the globe and reduce the risk and impact of a nuclear terrorist attack.

Key Terms: Nuclear Security, Nuclear Terrorism, US National Security, Nuclear Proliferation

The sixth season of the incredibly popular TV show “24” showed an almost unthinkable event to the American public: the detonation of a nuclear weapon in Los Angeles, CA. The episode provoked strong reactions from some, deeming it “fantasy” or “fear propaganda” (ABC News 2007). Whether it was intended as propaganda or not, the image of a nuclear weapon being detonated on American soil is a powerful one. Since the creation of the Manhattan project during World War II, the United States has invested heavily in developing nuclear technology and closely guarding it. Terrorist groups today are capable of creating widespread destruction, but lack access to the secrets of nuclear technology. Possession of fissile material and technical know-how are the missing pieces in terrorist capability to create and use a nuclear bomb (Blix 2006, 83). But what if they could somehow gain access to a bomb? The steps from acquisition of nuclear material by a group like Al Qaeda to detonation in the US are difficult, but alarmingly feasible. The threat of nuclear terrorism stems from weak security points and more importantly, unsecured stocks of nuclear weapons and material across the globe. In order to defend the nation from this threat, the United States must fully understand the threat of nuclear terrorism, the risks that lead to probability of a nuclear terrorist attack, and act by implementing national security policies to minimize these threats and risks, both now and in the future.
Threat Assessment

First, there must be an effective threat assessment of the risks of nuclear terrorism. This encompasses two main questions: how could a nuclear terrorist attack happen, and if it did, how devastating would it be to the US? On the first question, there are several ways that a terrorist organization might stage a nuclear attack on the US. Remembering that the focus of this paper is the threat posed by terrorist use of a nuclear weapon, we will leave out a discussion of the risks posed by acts of terror utilizing attacks against radioactive sites—these include attacks against nuclear power plants or nuclear storage sites that do not use nuclear technology as the catalyst of violence, but rather as the target.

There are three major ways that terrorist could use nuclear weaponry to attack the US, as outlined by Ferguson and Potter in *The Four Faces of Nuclear Terrorism*

- The Theft and detonation of an intact nuclear weapon
- The Theft or purchase of fissile material leading to the Fabrication and detonation of a crude nuclear weapon—an improvised nuclear device (IND)
- The unauthorized acquisition of radioactive materials contributing to the fabrication and detonation of a radiological dispersion device (RDD)—a “dirty bomb”—or a radiation emission device (RED).
  (Ferguson & Potter 2003, 3)

These simplify to two categories: terrorists acquiring an already deliverable nuclear weapon and using it, or terrorists acquiring nuclear materials of some kind, and making their own nuclear weapon. This begs the question: where would a terrorist group find nuclear weaponry or nuclear material to steal? The most at risk sites for usable nuclear weaponry to be stolen are in Russia, where stockpiles from the cold war are left frighteningly unsecured, and in Pakistan, where suspicious evidence of sales of nuclear material to rouge groups has recently surfaced. Vulnerable nuclear material, on the other hand, can be found much closer to home, Russia, Western Europe, and US stockpiles of nuclear materials both abroad and in the United States all pose security risks and are vulnerable to theft (Ferguson & Potter 2003, 2).

On the section question, there is no doubt that a nuclear attack would be extremely devastating to the US, both in the short term and the long term, and would cripple the international economy. Detonation anywhere would kill anyone in the blast zone and leave the surrounding area unsuitable for living or farming for years. Detonation in a major city would likely kill millions, and cripple any industry that was there (Ferguson & Potter 2003, 51, 112). This is especially important for a city like New York, which is the banking capital of the world, or Washington, where nearly all government operations are headquartered. The spillover effects of the attack would be massive as well. Kofi Annan, Former Secretary General of the United Nations, has said that a nuclear terrorist attack “would stagger the world economy and thrust tens of millions of people into dire poverty. Given what we know of the relationship between poverty and infant mortality, any nuclear terrorist attack would have a second death toll throughout the developing world.” (Annan 2005)
Risk Assessment

Clearly a nuclear terrorist attack would have severe consequences if it were to occur. What, then, is the likelihood of such a terrible action? This section gives a risk assessment of a nuclear terrorist attack, by answering two critical questions: do terrorist groups want to use nuclear weapons in an attack? And if so, how likely would it be that they could successfully carry out such an attack?

Terrorism, while a difficult concept to precisely define, can be thought of in a very basic sense as an act of violence by one group against another, where violence is done to achieve some greater political objective beyond just the violence itself. This could be provoking fear, encouraging political change, creating instability, or a host of other objectives. With this understanding, it seems that use of nuclear weapons fits well within these goals. Nuclear weapons are the most deadly force possessed by humans in the modern era. They are capable of not only causing fast and widespread destruction, but also leave behind the effects of radiation for years to come. Nuclear bombs have only been used twice in history, at the end of World War II. Since then, there has been a great amount of public and international attention to controlling the manufacture, spread, and use of nuclear weapons. The detonation of a nuclear bomb would evoke the same extreme fear and shock from the American public as the attacks on September 11th did. This public fear and hype surrounding nuclear weapons makes them a prime target for terrorist groups seeking to shock the conscience of the American people.

In a 1999 interview with ABC News, Osama Bin Laden addressed this issue. He said that seeking to acquire nuclear weapons was a “religious duty”, and that it would be a sin not try to and possess nuclear technology that could be used as a weapon (ABC News 1999). Since then, there have been similar statements and assessments made by terrorist groups and experts confirming the desire of terrorists to obtain nuclear materials. In 2009, a leading Al Qaeda member said that they would use nuclear weapons in Pakistan against the US, were they able to acquire them (Reuters 2009). In 2010, President Obama declared at the Nuclear Weapons Security Summit that “We know that organisations like al-Qaeda are in the process of trying to secure nuclear weapons or other weapons of mass destruction, and would have no compunction at using them” (Spillis 2010). In an interview with the Huffington Post, nuclear expert Rahim Kanani said that recent Al Qaeda statements regarding WMD are “laying the groundwork” of justification for a future attack (Rahim 2011).

More recently, reports have surfaced from Wikileaks that 9/11 ringleader Khalid Sheikh Mohammed claims Al Qaeda already has a nuclear weapon in its possession, hidden somewhere in Europe, that it will detonate should Osama Bin Laden be captured or killed. This is accompanied by reports of “numerous attempts by al-Qaeda to obtain nuclear materials and fear that terrorists have already bought uranium” in the leaked documents (Global Security Newswire 2011). It is clear, then, that ample motivation and desire exists within terrorist groups to acquire materials to stage a nuclear attack against the US.

So how might a terrorist group stage a nuclear attack on the US? Motivation established, they would need to obtain either a functional nuclear weapon or nuclear material in order to make their own weapon. If they had nuclear material, they would need the appropriate capability and know-how to make a nuclear weapon. Then, they would need to somehow transport this weapon onto US soil, and detonate it. Each step in this process is critical and failure at one link in the chain would result in failure of the nuclear attack. This is an important realization for security policy makers, because it establishes clear areas to increase surveillance and security.
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Securing stores of nuclear material and weaponry, preventing dissemination of nuclear technology, and increasing security at ports and borders should all be prime objectives to prevent a nuclear attack.

Unfortunately, the nuclear stockpiles around the world are quite vulnerable to theft and remain unsecured. Matthew Bun, in his book *Securing the Bomb 2010*, details the security state of nuclear sites. Generally speaking, some security measures exist for most locations where nuclear materials are stored. However, some are much more secure than others, leaving a definite disparity in the accessibility/security of nuclear materials. Some security is so minimal, that Bunn argues it would not be enough to stop an attempted theft by motivated individuals. However, he also cautions against categorizing nuclear stockpiles as secured/unsecured/vulnerable, instead arguing that security exists on a continuum, where there are degrees of risk for each site, and that security can always be improved. Appropriate risk assessment should determine which sites are the most vulnerable, and consequently which sites should take priority over others (Bunn 2010, 22-23).

Additionally, theft by an external actor is only one security threat faced by nuclear stockpiles today. Ferguson and Potter outline several additional ways in which terrorists might gain access to nuclear material (Ferguson & Potter 2003, 55). For one, a government might directly give nuclear materials to a terrorist group. Second, in addition to external threats, there are also two internal threats to security. A corrupt government official could divulge information or assist a terrorist group in accessing weapons. Alternatively, terrorist could infiltrate the security sector in low level positions, garnering access to information or the ability to coordinate access to nuclear assets (eg, through diversion of transportation routes). Finally, terrorist organization could stage a Coup d’Etat against a government that possessed nuclear weapons. Each of these risks should be considered in a threat assessment of a nuclear stockpile. Bunn argues that the highest risk areas of nuclear threat come from three areas: Pakistan, Russia, and HEU research reactors, primarily in Russia and the US (Bunn 2010, 26-27).

Security risks to nuclear weapons in Pakistan stem from both internal and external security concerns. Pakistan has the fifth largest nuclear weapons stockpile in the world, with over 110 deployed weapons (Rashid 2011). Because of their close geographic proximity to Al Qaeda operations, forceful theft of nuclear materials by terrorist groups is a risk for Pakistan’s stockpiles. Additionally, collusion between terrorists and insiders in the Pakistani government or security officials represents another possible avenue for terrorist acquisition of nuclear weapons. Pakistan has recently made improvements to its security infrastructure, and the nuclear security regime shows promise for effectiveness (Khan 2009). Most major US intelligence officials are confident in the ability of the Pakistani government to control their nuclear assets. However, this assessment is based off of limited information that likely does not paint the full picture, because much of the information surrounding Pakistan’s nuclear stockpiles is not public (Kerr & Nikitin 2011).

The outlook in Russia is bleaker. After the Cold War, many Russian nuclear weapons were extremely vulnerable—left nearly unsecured across the country. Since then, the Russian government has made a considerable effort to strengthen security and upgrade technology that guards nuclear weapons and material (Bunn, 2006). However, significant risks still remain. Because of the sheer quantity of weapons in Russia, and the difficulty of managing such a large number of weapons, external risks of outright theft are always a concern. Reports by Russian officials have confirmed that terrorists have conducted intelligence gathering operations on Russian stockpiles, and to date, it is the only country where documentation of terrorist
surveillance exists (Bunn 2010, 35). Equipping all sites with state of the art security measures has been a difficult challenge. The Russian government, and consequently the security contractors who are responsible for the upkeep of these facilities, suffers from a lack of financial resources (Joyner & Parkhouse 2009, 215).

Additionally, significant internal threats are present. Because the government employs independent security companies to coordinate much of management of nuclear materials, there are two channels for insiders to aid terrorist groups—high level government officials and low level technical personnel. Both groups have incentive to divulge information at the right price, and Russia has a political environment that has been rife with corruption for decades (Bunn 2010, 32-33 and Joyner & Parkhouse 2009, 216).

Finally, there is the security risk of Highly Enriched Uranium-fueled reactors (HEU’s). Because of its chemical composition and refinement, HEU can be used easily to make crude nuclear weapons even by non-experts (Norwegian Project Secretariat). Because of the ease with which a weapon can be made out of HEU, it is easy to see why terrorist acquisition is a direct security risk. As of 2009, about half of the 200 remaining reactors were still using HEU fuel, and do not have capability to be converted to lower enriched uranium (LEU) (World Nuclear Association 2011). Most of these are in Russia, where the government has invested little in research to convert their own reactors to LEU power or other alternatives (World Nuclear Association 2011). Further, and most alarming, is that the security at many of these HEU sites is inadequate to prevent theft of HEU, making research reactors a prime target for terrorists seeking to obtain nuclear material (Bunn, 2010, 45).

If a terrorist group only acquires nuclear material, and not a functional weapon, they will have to successfully create a weapon that they can detonate. Unfortunately, this is an achievable end that can be done with little resources or expertise. As discussed above, Highly Enriched Uranium is pure enough that it can be made into a devastating weapon relatively easily, and it is also the most likely nuclear material that terrorists would get their hands on. The perception of modern nuclear weapons may be that they are highly technical instruments of warfare backed by complex science. While this may be true, a “crude” nuclear weapon, one that takes little skill to create, would still be incredibly deadly—capable of destroying the downtown of a major city (Bunn, 2010, 16). The process of building a weapon of this type is not entirely simple, and anyone who wanted to construct such a device would need a technical team with at least some experience. However, in comparison to the nuclear weapons manufactured today, a crude bomb would be a more feasible project, as it would not have to comply with rigorous military and safety specifications. Thus, it is plausible to see that this kind of power is not out of reach for dedicated terrorist groups, should they acquire nuclear material (Ferguson & Potter 2003, 116).

Having acquired nuclear material and created a weapon, the final obstacle a terrorist group would need to pass would be delivery and detonation in the target location. Likely, this would involve them smuggling a bomb or device into the United States, and then into a major city, undetected. Nuclear material is quite difficult to track, especially the small amounts that would be needed for a crude weapon (Bunn 2010, 18). Journalists have repeatedly demonstrated the ease with which radioactive materials can be transported and shielded from detection while traveling (Ferguson & Potter 2003, 141). Even with the most advanced technology, HEU is among the most difficult kind of radiological material to detect (Montgomery 2009, 79). Also, terrorists could use existing port and transport systems in place, as they are relatively unsecure. Customs and Border Patrol inspects only around 6% of cargo containers entering the US (Medalia 2005). Even with increased security measures and Port Authority reorganization in
2003, there are still plausible scenarios for terrorist groups sneaking radioactive materials into the US via boat undetected (Ferguson & Potter 2003, 300). Furthermore, terrorists could avoid this obstacle entirely by taking materials that were already inside the US.

Once inside the US, delivery and detonation to target site would also not be insurmountable. As Matthew Bunn and E. P. Maslin write:

The length of national borders, the diversity of means of transport, the vast scale of legitimate traffic across borders, and the ease of shielding the radiation from plutonium or especially from HEU all operate in favor of the terrorists. Building the overall system of legal infrastructure, intelligence, law enforcement, border and customs forces, and radiation detectors needed to find and recover stolen nuclear weapons or materials, or to interdict these as they crossnational borders, is an extraordinarily difficult challenge.

(Bun & Maslin 2010)

In order for a terrorist group to be “successful” in carrying out a nuclear attack, many elements must come together. There is no doubt that the end result of a nuclear terrorist attack would be terrible, so even with a low probability of attack, the high impact possibility means steps should still be taken to prevent it. In each link of the chain of attack, there are security measures that have been put in place, and continue to be upgraded. However, as discussed above, there are still vulnerabilities in each step of the process that, if they all were orchestrated together, terrorists could exploit to pull off an attack with a nuclear weapon. The most critical of these links is acquisition of a bomb or nuclear material, because it is the only one that truly prevents an attack from occurring. Once a terrorist group has nuclear material, they can find people willing to make it into a usable weapon if they cannot themselves. If they cannot smuggle it to the desired target, they can find another target. But if they do not have a bomb in the first place, their capability for nuclear attack is severely limited. Thus, as suggested by experts on nuclear security, the first step in preventing nuclear terrorism should be securing nuclear stockpiles (Bunn & Maslin 2010 and Ferguson & Potter 2003).

Policy Solutions

What, then, does this risk suggest for United States National Security Policy? Two approaches to security must be implemented to deal with the threat of nuclear terrorism. First are the domestic approaches designed to mitigate the impact of an attack, in the event that a terrorist group was to acquire nuclear weapons and attempt to use them in the US. Second, national security policy should utilize international regimes and agreements to increase nuclear security around the world, in order to prevent terrorist acquisition of nuclear weapons in the first place.

These approaches can be characterized as defensive measures—those that seek to reduce the impact of a hypothetical attack, and preventative measures—those that seek to reduce the probability of an attack occurring.

On the defensive front, there are three policy priorities that should be pursued. First, security at ports should continue to be strengthened, both financially and operationally. Funds must be allocated to projects that upgrade technology, increase staff, and increase the security of the port system in order to more effectively detect illicit materials that enter the country. DHS and other agencies should continue to refine inspection and screening operations and protocols so that the probability of nuclear material sneaking “through the cracks” undetected is reduced.
Second, detection schemes more generally should be strengthened and invested in at all points of entry to the US, including land, air and sea. The logic behind this is twofold. First, the technical capacity to detect nuclear weapons is currently weak, and R&D investment in new ways of detection has potential to make this process much more effective (Montgomery 2009, 80). However, there are limitations to the capability new technology can provide, as well as drawbacks that come with more security (false positives, inefficient shipping of goods). Yet, there is an additional reason to increase detection capabilities, notwithstanding this. A sophisticated detection system enters into a terrorist group’s calculus of whether or not they decide to carry out an attack. At some point, the probability of being caught and failing may dissuade them from going through with the operation in the first place (Montgomery 2009, 81).

A third important measure to defend against nuclear terrorism is the effective use of intelligence, specifically HUMINT and IMINT. Intelligence plays a critical role in informing policy makers about terrorist activity, and collaboration between intelligence agencies has been touted as the key to effectively preventing terrorist attacks by “connecting the dots” beforehand (The 9/11 Commission Report 2004, 407-418). Effective intelligence may have the capability to warn the US if a nuclear terrorist attack is pending and take appropriate measures to respond in mitigation or elimination of the operation (Montgomery 2009, 83). In this sense, existing HUMINT operations play a critical role, and information gleaned by them should be shared with relevant homeland security agencies so that all players are adequately informed of the risk of attack.

Intelligence, and specifically IMINT, also has an important role to play in the surveillance of nuclear stockpiles around the world. Once it can be determined that a weapon has gone missing, appropriate steps can be taken to confirm or deny suspicion of a pending attack through tracking and intelligence. Without that warning sign, however, intelligence personnel would not have reason to track, for example, nuclear material traveling from the Russian border through Europe, and across the Atlantic to a US port. Further still, effective intelligence of nuclear stockpiles in countries who do not share US interests wholly (Pakistan, Iran, North Korea, etc.) can alert us to the possibility of direct transfer of weapons to a terrorist organization by a state, or to the possibility of theft in those areas when the governments themselves have little incentive to report weapons as missing.

If a nuclear attack is imminent, it is also important for the appropriate emergency response policies to be in place. The Department of Homeland Security, in conjunction with localities across the US, has begun to develop protocols for attack by an IND (improvised nuclear device). The city of Los Angeles recently used computer modeling to simulate a nuclear attack on the city (USA Today 2010). Tests and research like this should continue and should be disseminated across the US, so that every area has a response protocol that is up-to-date with the most current threat possibilities of a nuclear attack. It is likely that special operations forces would need to be involved in combating nuclear terrorist (Montgomery 2009, 85). Much information regarding SOFs are classified, so it is unclear how prepared they would be to seize a nuclear weapon and/or prevent it from being detonated. Every effort should be made to ensure that these units have the full capability to respond to a nuclear threat should one arise.

On the preventative front, the US must look to partnership with other countries to appropriately mitigate the risk of terrorist acquisition of a bomb or materials, especially because so many of the sites vulnerable to seizure are outside of the United States. In the international nuclear weapons policy landscape, states assume full responsibility and authority over nuclear
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material stored within their boundaries, thus national level policies are the primary way to secure nuclear stockpiles (Bunn 2010, 53).

Since the realization of the threat of nuclear terrorism, much work has been done on the international level to secure nuclear weapons by the US—both in supporting other countries efforts to secure their own stockpiles, and through bilateral agreements to reduce stockpiles and implement security measures. These initiatives include Cooperative Threat Reduction (CTR) and the Global Threat Reduction Initiative (GTRI), both of which have been successful programs primarily aimed at dismantling and/or securing nuclear weaponry in Russia and the US.

These initiatives are critical for ensuring the security of nuclear materials around the world. The US must continue these programs as a vital part of national security policy. However, they should be expanded to involve more countries in the developing world, not just the most high risk sites, and set targets for elimination of weapons in areas where large progress has already been made in reduction. The key to this expansion will be effective diplomacy, and convincing states that it is in their interest to cooperate.

James Kraska suggests creating another Director of National Intelligence position specifically to deal with CTR/GTRI programs, which would make existing programs more efficient and perhaps make it easier to bring other countries into these programs (Kraska 2005, 779). Ironically, one of the problems with Cooperative Threat Reduction programs in the past has been the lack of cooperation/coordination among the different agencies involved, and having one officer, with direct access to the president could streamline this process.

Another important element of threat reduction programs that needs to be strengthened is the push to eliminate Highly Enriched Uranium at nuclear reactors. The Department of Energy has been working within Russia and the US to reduce HEU usage at plants (Bunn 2010, 65). These efforts should expand from typical military reactors to research reactors, and should focus on complete elimination of HEU.

The heart of the international legal framework for nuclear arms, including regulations on nuclear security and nuclear terrorism, rests around the Nuclear Nonproliferation treaty (NPT) (Joyner & Parkhouse 2009, 227). The International Atomic Energy Agency (IAEA) has the authority to enforce and carry out provisions of this treaty, and has put forth a set of guideline that important for nuclear security. These guidelines deal with transportation and storage of nuclear weapons, as well as jurisdictional issues when transporting them across borders. The US should to everything in its power to strengthen these regimes. Tools available include training and information sharing, technology sharing, technical assistance through bilateral programs, and monetary or political incentives like foreign aid (Joyner & Parkhouse, 238).

Additionally, diplomatic and political avenues should be used to convince countries that it is in their own interest to secure their nuclear stockpiles unilaterally. Countries with at-risk stockpiles of nuclear material often could secure it on their own, but without adequate motivation, will not act (Bunn 2010, 66). Convincing countries can be accomplished through strong statements at international meetings like the Nuclear Security Summit, like President Obama has done this past year (ABC News, 2010).

Another effective tool in persuading other countries of action is disarmament and transparency within the US’s own nuclear arsenal, which is lagging on some of its commitments within the NPT and other treaties. Maintaining a two-faced posture on nuclear disarmament hurts the US message to other countries and costs them important diplomatic allies in the fight for nuclear security (Cirincione 2011). While it is not necessary for the US to advocate for the complete elimination of nuclear weapons across the globe, strengthening international law on
nonproliferation, first use, and disarmament means that other states will likely take nuclear commitments of any kind more seriously. Ultimately, strengthening international regulation on nuclear weapons generally can have the effect of strengthening specific unilateral, bilateral, or multilateral efforts to increase the security of nuclear stockpiles and decrease the probability of terrorist groups gaining access to them.

All of these efforts must be considered in the larger context of the US national security strategy. CTR/GTRI programs represent just a small fraction of DOD/DOS/DOE budgets, so there is little concern for trade-off, or to think that nuclear security is a zero-sum policy for other defense programs (Bunn 2010, 68-69). The intelligence community already collects most of the information that would be useful to nuclear terrorism planning, but protocols need to be developed for this information to be shared to other relevant US agencies effectively. More importantly, the issue of nuclear terrorism has implications for the larger US war on terror, and efforts to address the motivations for and causes of terrorism, both in the Middle East and elsewhere. Any efforts made must be consistent across the board by the United States, through Foreign Policy, Military and intelligence operations, and National security strategy, if there is ever a hope for us to spread a credible message. Nuclear security efforts should not undermine other initiatives.

Conclusion

The United States has made great strides in addressing the threat of nuclear terrorism in the last decade. Threats and priority areas have been identified, and real progress has come about from efforts to increase preparedness for an attack and initiatives to secure nuclear weapons. Despite this progress, more work can be, and needs to be done. Successful programs need to be expanded beyond the US and Russia. And existing programs need to focus on elimination of vulnerable stockpiles, going one step beyond reductions. Domestically, port security needs to be strengthened while developing more sophisticated detection measures. These efforts will increase the likelihood of a terrorist group getting caught, and may decrease the likelihood that they will try to mount an attack in the first place. Effective intelligence collaboration must take place to effectively watch for potential attacks, and preparedness measures need to be in place in the event that such an attack comes on the intelligence radar. Nuclear terrorism currently is a relatively low probability, but extremely high impact security issue. With dedicated efforts by various sectors of the US national security architecture, the probability of a successful attack can continue to decline, and at the same time agencies can work to reduce the impact of any attack that might happen.
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Bibliography


Bunn, Matthew. 2006 Securing the Bomb. Cambridge, MA: Project on Managing the Atom, Harvard University, and Nuclear Threat Initiative.


Kerr, Paul K., and Mary Beth Nikitin. 2011. "Pakistan’s Nuclear Weapons: Proliferation And
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