

**Summary of the Book “Nuclear Terrorism: The Ultimate Preventable Catastrophe” by Graham Allison:**



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## INTRODUCTION

Americans in the twenty-first century are keenly aware of the many forms of terrorism: hijackings, biological attacks, chemical weapons. But rarely do we allow ourselves to face squarely the deadliest form of terrorism, because it is almost too scary to think about—a terrorist group exploding a nuclear device in an American city.

In this urgent call to action, Graham Allison, one of America's leading experts on nuclear weapons and national security, presents the evidence for two provocative, compelling conclusions. First, if policy makers in Washington keep doing what they are currently doing about the threat, a nuclear terrorist attack on America is likely to occur in the next decade. And if one lengthens the time frame, a nuclear strike is inevitable. Second, the surprising and largely unrecognized good news is that nuclear terrorism is, in fact, preventable. In these pages, Allison offers an ambitious but feasible blueprint for eliminating the possibility of nuclear terrorist attacks.

The United States once relied on the threat of mutually assured destruction to deter the Soviet Union from launching a nuclear strike. But in today's fragmented world, a new strategy is needed, especially with nuclear material vulnerable to theft or sale through black-market channels.

The choice is ours: to grab this beast by the horns or to be impaled on those horns. We do not have the luxury of hoping the problem will go away, and Allison shows why.

### **1. Who could be planning nuclear attack?**

WHY DO YOU use an axe when you can use a bulldozer?" That was Osama bin Laden's question in 1996 to Khalid Sheikh Mohammed, the chief planner of what grew into the most deadly attack on the American homeland in the nation's history. Mohammed is now in American custody, the highest-ranking Al Qaeda leader captured to date in the war on terrorism. He has told interrogators that the "axe" to which bin Laden referred was his proposal to charter a small plane, fill it with explosives, and crash it into CIA headquarters in Langley, Virginia. Bin Laden sent him back to the drawing board with a charge to devise a more dramatic, devastating blow against the "hated enemy."

In the months that followed, Mohammed proposed a number of "bulldozer" options for bin Laden's review. As he explained in an Al Jazeera interview in April 2002, just before he was seized, he and his colleagues "first thought of striking a couple of nuclear facilities." But with regret, he noted, "it was eventually decided to leave out the nuclear targets-for now." When the interviewer asked: "What do you mean 'for now'?" he replied sharply: "For now means for now."

#### AL QAEDA'S "MANHATTAN PROJECT"

In August 2001, during the final countdown to what Al Qaeda calls the "Holy Tuesday" attack, bin Laden received two key former officials from Pakistan's nuclear weapons program at his secret headquarters near Kabul. Over the course of three days of intense conversation, he and his second-in-command, the Egyptian surgeon and organizational mastermind Ayman al-Zawahiri, quizzed Sultan Bashiruddin Mahmood and Abdul Majeed about chemical, biological, and, especially, nuclear weapons. Bin Laden, al-Zawahiri, and two other as yet unidentified top-level Al Qaeda operatives who participated in these conversations had clearly moved beyond the impending assault on the World Trade Center to visions of grander attacks to follow.

Mahmood and Majeed's meeting with the leaders of Al Qaeda came at the end of months of prior meetings with subordinates. Al Qaeda had sought out Mahmood, one of Pakistan's leading specialists in uranium enrichment, for his capabilities, his convictions, and his connections. Mahmood's career spanned thirty years at the Pakistani Atomic Energy Commission, and he had been a key figure at the Kahuta plant, which had produced the enriched uranium for Pakistan's first nuclear bomb test. Thereafter, he headed the Khosib reactor in the Punjab that produces weapons-grade plutonium. In 1999, however, he was forced to resign abruptly for describing Pakistan's nuclear capability as "the property of a whole Muslim community" and for publicly advocating that Pakistan provide enriched uranium and weapons-grade plutonium to arm other Muslim states. But even though the government of Pakistan vehemently denounced Mahmood's views, it had been surreptitiously following a similar policy, having offered or supplied uranium enrichment technology and know-how to Iraq, Libya, Iran, and even North Korea.

Mahmood is representative of a significant faction of Pakistani "nuclear hawks" who through the 1990s grew increasingly estranged from the country's more moderate

leadership. Under the leadership of Dr. Abdul Qadeer Khan, the revered "father of the Islamic bomb," these scientists had thrust Pakistan into the ranks of the declared nuclear powers, and through their work they became some of the most respected members of Pakistani society. But for many of them, the mission was not only to overcome India's conventional superiority but to stand up for the Muslim world. As Prime Minister Zulfikar Ali Bhutto revealed in his memoir (written from prison just before his execution in 1979), these scientists were ordered in January 1972 to "achieve a full nuclear capability" in order to demonstrate that "Islamic Civilization" was the full equal of "Christian, Jewish, and Hindu Civilizations."

Mahmood was-and is today-an Islamic extremist. In the late 1980s, Mahmood published an essay titled "Mechanics of Doomsday and Life after Death," in which he argued that natural catastrophes are inevitable in countries that succumb to moral decay. In contrast, he later praised the virtues of the Taliban government in Afghanistan, which he called the vanguard of the "renaissance of Islam." His spiritual leader, the Lahore-based Islamic radical cleric Israr Ahmad, declared in the fall of 2001 that the U.S. attack on Afghanistan was the beginning of "the final war between Islam and the infidels." Ahmad condemned the U.S. war on terrorism as a "materialistic jihad," in contrast to the Muslims' jihad, which he characterized as being for "the sole purpose to gain the pleasure of Allah and for the preservation of justice and equality." Ominously, Ahmad's student Mahmood predicted in an essay that, "by 2002, millions may die through mass destruction weapons, terrorist attacks, and suicide."

After his forced departure from Pakistan's Atomic Energy Commission in 1999, Mahmood founded a "charitable agency" that he named Ummah Tamer-e-Nau (Reconstruction of the Muslim Community) to support projects in Afghanistan. Majeed also retired in 1999 and joined Mahmood's organization. Under this cover, they traveled frequently to Afghanistan to develop projects, one of which called for mining uranium from rich deposits in that country. Other members of the board of Mahmood's foundation included a fellow nuclear scientist knowledgeable about weapons construction, two Pakistani Air Force generals, one Army general, and an industrialist who owned Pakistan's largest foundry.

At the time of Mahmood and Majeed's visit to bin Laden in the summer of 2001, relations between the United States and Pakistan were still in a deep freeze, in response to

Pakistan's test of a nuclear weapon in 1998. The United States had immediately imposed economic sanctions on the country, and President Bill Clinton denounced the Pakistani government for its decision, saying, "I cannot believe that we are about to start the 21st century by having the Indian subcontinent repeat the worst mistakes of the 20th century when we know it is not necessary to peace, to security, to prosperity, to national greatness or personal fulfillment." In 1999, relations deteriorated further when General Pervez Musharraf seized power in a coup d'état that ousted the democratically elected prime minister, Nawaz Sharif.

When reports about the August 2001 meeting reached CIA headquarters at Langley after the attacks on the World Trade Center and the Pentagon, alarm bells sounded. Analysts at the Counterterrorism Center recognized the story line. In 1997, Pakistani nuclear scientists had made secret trips to North Korea, the result of which was that Pakistan would provide North Korea with technical assistance for its nuclear weapons program in exchange for North Korean assistance in Pakistan's development of long-range missiles. The CIA had additional information about a third Pakistani nuclear scientist, who had been negotiating with Libyan intelligence agents over the price for which he would sell nuclear bomb designs. CIA director George Tenet was so alarmed by the report of Mahmood's meeting with bin Laden that he flew directly to Islamabad to confront President Musharraf.

On October 23, Mahmood and Majeed were arrested by Pakistani authorities and questioned by joint Pakistani-CIA teams. Mahmood claimed that he had never met bin Laden, but repeatedly failed polygraph tests in which he was asked about his trips to Afghanistan. His memory improved, however, after his son Asim told authorities that bin Laden had asked his father about "how to make a nuclear bomb and things like that." According to Mahmood, bin Laden was particularly interested in nuclear weapons. Bin Laden's colleagues told the Pakistani scientists that Al Qaeda had succeeded in acquiring nuclear material for a bomb from the Islamic Movement of Uzbekistan. Mahmood explained to his hosts that the material in question could be used in a dirty bomb but could not produce a nuclear explosion. Al-Zawahiri and the others then sought Mahmood's help in recruiting other Pakistani nuclear experts who could provide uranium of the required purity, as well as assistance in constructing a nuclear weapon. Though Mahmood characterized the discussions as "academic," Pakistani officials indicated that Mahmood and Majeed "spoke extensively about weapons of mass destruction," and provided detailed

responses to bin Laden's questions about the manufacture of nuclear, biological, and chemical weapons.

After their arrest and interrogation, Mahmood and Majeed were found to have violated Pakistan's official secrets act. Their passports were lifted and they remain, in effect, under house arrest. Nonetheless, the Pakistani government refused to bring the two to trial for fear of what they might reveal about Pakistan's other secret nuclear activities. This was not an idle fear. In a prescient article published less than a month before he was kidnapped and executed while investigating the "shoe bomber" Richard Reid, Daniel Pearl of the Wall Street Journal revealed that Pakistani military authorities found it "inconceivable that a nuclear scientist would travel to Afghanistan without getting clearance from Pakistani officials," because Pakistan "maintains a strict watch on many of its nuclear scientists, using a special arm of the Army's general headquarters to monitor them even after retirement."

In the end, U.S. intelligence agencies concluded that Mahmood and Majeed had provided bin Laden with a blueprint for constructing nuclear weapons. Thereafter, sometimes in collaboration with the Pakistani intelligence agency, Inter-Services Intelligence (ISI), and otherwise unilaterally, American operatives have sought to intercept further "vacations" in Afghanistan by Pakistani nuclear physicists and engineers. The CIA's summary of the matter, submitted to President Bush, concluded that while Mahmood and his charity claimed "to serve the hungry and needy of Afghanistan," in fact, it "provided information about nuclear weapons to Al Qaeda."

#### PATIENCE, THOUGHTFULNESS, AND EXPERTISE

Andrew Marshall, director of net assessments at the Department of Defense and one of the wise men among national security insiders, has long warned that "if the U.S. ever faced a serious enemy, we would be in deep trouble." Al Qaeda qualifies as a formidable foe. With an annual budget of over \$200 million during the 1990s, Al Qaeda brought more than sixty thousand international recruits to Afghanistan for training in terrorist attacks. It established cells, including sleeper cells, in approximately sixty countries. It created affiliate relationships with major terrorist groups around the world, from Chechnya to Indonesia, from Saudi Arabia to Germany, and within the United States itself. Indeed, an Al Qaeda sleeper cell in Singapore, among the most secure and watchful societies in the

world, was narrowly prevented from launching an attack on the U.S. and Israeli embassies there, with ten times the amount of explosives used by Timothy McVeigh in Oklahoma City. As one Singaporean official observed, "If they could do it here, they could do it anywhere."

Even before 9/11, Al Qaeda's attacks demonstrated an organizational capacity to plan, coordinate, and implement operations well above the threshold of competence necessary to acquire and use a nuclear weapon. Veterans of the most successful U.S. covert actions agree with Tenet's bottom line: the attack on the World Trade Center and the Pentagon was "professionally conceived and executed-it showed patience, thoughtfulness, and expertise." As an analyst conducting the postmortem on that attack observed: Who else could have found four scheduled American flights that took off on time?

After 9/11, terrorism analysts and other specialists within the U.S. government reexamined the pattern of Al Qaeda's earlier attacks in an effort to connect the dots. When those dots are connected, they reveal a dagger pointed from Al Qaeda's February 1993 attack on the World Trade Center, through the August 1998 attacks on the U.S. embassies in Kenya and Tanzania and the bombing of the warship USS Cole in October 2000, to the massive attack of 9/11. Indeed, the dagger points beyond what was achieved in that case to further mega-terrorist attacks with chemical, biological, and nuclear weapons.

When U.S. Special Forces, CIA operatives, and Afghan warlords toppled the Taliban government in Afghanistan in late 2001, the U.S. government and American journalists learned more about Al Qaeda than most had imagined they wanted to know. Overrunning hundreds of headquarters buildings, safe houses, training camps, and caves, they recovered tens of thousands of pages of documents, plans, videos, computers, and disks. Secretary of Defense Donald Rumsfeld found in this evidence "a number of things that show an appetite for WMD." Together with information extracted through interrogation of captured Al Qaeda operatives, these findings now provide a solid base for assessing Al Qaeda as a nuclear threat.

One of the untold stories of this drama has been the key role played by journalists in acquiring critical information. In December 2001, the Wall Street Journal purchased a desktop computer and a laptop computer looted from an Al Qaeda safe house that turned

out to have been used by several top bin Laden lieutenants, including al-Zawahiri and bin Laden's former military commander, the late Mohammed Atef. In addition to hundreds of routine letters and memos dealing with the daily administration of Al Qaeda's terrorist network, the computers' hard drives contained password-protected files on a project code-named "al Zabadi," Arabic for "curdled milk." The curdled milk project sought to acquire chemical and biological weapons, and it had reached the point of testing nerve gas recipes on dogs and rabbits.

CNN discovered perhaps the most disturbing piece of evidence in the Kabul home of Abu Khabab, a senior Al Qaeda official—a twenty-five-page essay titled "Superbomb," which included information on types of nuclear weapons, the physics and effects of nuclear explosions, and the properties of nuclear materials. David Albright, a former nuclear weapons inspector who reviewed the document, concluded that "the author understood shortcuts to making crude nuclear explosives."

According to Hamid Mir, Osama bin Laden's biographer, Al-Zawahiri told him, "If you have \$30 million, go to the black market in the central Asia, contact any disgruntled Soviet scientist and...dozens of smart briefcase bombs are available..." Even if one dismisses such unconfirmed claims, they illustrate how this relatively simple recipe for acquiring a nuclear weapon has become common knowledge.

Yet some other analyst at the CIA and elsewhere in the U.S. government believe that Al Qaeda already has a nuclear weapon. The consensus view within the U.S. intelligence community is that Al Qaeda has experimented with chemical weapons (including nerve gas), biological weapons (anthrax), and nuclear radiological dispersal devices (dirty bombs).

#### JEMAAH ISLAMIYAH

The most active Al Qaeda affiliate in Southeast Asia is Jemmah Islamiyah, which has been responsible for planning and carrying out attacks in the Philippines, Indonesia, and Singapore. Jemaah gained international notoriety with its October 2002 bombing of a Bali nightclub, which killed 202 people, mostly Western tourist.

The attack consisted of 2 bombs, the first comparatively small, 2.2 pounds of TNT. The second, much more powerful bomb was made from 330 pounds of ammonium nitrate, the same fertilizer used in Oklahoma City bombing. The first explosion was designed to induce panic, forcing people out of the building and into the full brunt of the second blast. The second bomb not only leveled the nightclub but destroyed much of the surrounding block as well.

#### NUCLEAR GANGSTERISM IN CHECHNYA

To date, the only confirmed case of attempted nuclear terrorism occurred in Russia, on November 23, 1995, when Chechen separatists put a crude bomb containing 70 pounds of a mixture of cesium-137 and dynamite in Moscow's Ismailovsky Park. The rebels decided not to detonate this dirty bomb but instead alerted a national television station to its location. This demonstration of the Chechen insurgents' capability to commit ruthless terror underlined their long-standing interest in all things nuclear. As early as 1992, Chechnya's first rebel president Dzhokhar Dudayev, began planning for nuclear terrorism, including a specific initiative to hijack a Russian nuclear submarine from the Pacific Fleet in the Far East.

Chechen separatists have been engaged for more than a decade in a deadly fight for independence from Russia. This war has left more than 100,000 civilians dead and nearly half of the population homeless. The long war transformed Chechnya from a proud mountainous community of Muslim villages to a breeding ground for criminal activity of all forms. Among international terrorists, Chechen rebels have achieved a reputation for extreme ruthlessness, including torture, executions and beheading.

#### THE A-TEAM OF ISLAMIC TERRORISTS

Before 9/11, the group responsible for the single deadliest terrorist attack on Americans in history was not Al Qaeda but Hezbollah. A violent Islamic terrorist organization, funded mainly by Syria and Iran, Hezbollah was responsible for the truck-bomb attack on the U.S. Marine barracks near the Beirut Airport on October 23, 1983, which killed 241 servicemen. To this day, the group remains active and powerful in the Middle East. Deputy Secretary of State Richard Armitage has called Hezbollah the "A-team of terrorists", and CIA director Tenet testified in February 2003 that as "an organization with

capability and worldwide presence”, Hezbollah is Al Qaeda’s “equal if not a far more capable organization”. Hezbollah’s activities have been concentrated in Lebanon.

Under what conditions might Hezbollah escalate to nuclear violence? One possibility involves the Iranian connection. In early 1980s, Iran created Hezbollah as a proxy force against Israel, and it continues to give up the group some \$100 million a year. Iran also provides training, weapons, and explosives, as well as political, diplomatic, and organizational aid.

#### MUSHARRAF’S TIGHTROPE

Pakistan remains a source of nuclear worries for the United States. Their president Musharraf is pro-American, so on the one hand, he needs to pacify the Americans on whose financial support he depends. On the other hand, extremists are everywhere: in the madrassas (Islamic schools), in the intelligence services, in the military, and among the general public.

The group, known as Muttahida Majil-e-Amal (MMA), offered a simple platform: pro-Taliban, anti-American, and against all Pakistani involvement in the war on terror. It is now the third largest party in Pakistan’s national parliament, and controls the very region where the ICA believes Osama bin Laden, Ayman al-Zawahiri are hiding.

It is a widely held belief among Pakistan’s scientific and military elite that Pakistan, as the home of the first Islamic bomb, has a duty to share its knowledge. In January 2004, the *New York Times* obtained a brochure advertising different types of nuclear technology available to other nations from the Khan Research Laboratories. The booklet, emblazoned with a Pakistani government stamp, was one of a batch that had been in circulation to the world’s nuclear aspirants for several years. It was revealed that sales of nuclear materials were made to Iraq, Iran, Libya, and North Korea.

Several terrorist organizations nominally focused on the Kashmir conflict are already operating beyond Musharraf’s control. One such group, Jaish-e-Mohammed (JEM), has been linked to several major terror attacks, including the bombing of the Indian parliament in December 2001 and an attack in October 2000 on the local legislature in Indian-held Kashmir that killed 38 people.

## NOT ON ANYBODY'S RADAR SCREEN

The countless doomsday cults around the world might be of danger as well. The inexorable spread of scientific knowledge, combined with a growing appeal of apocalyptic worldviews, make it possible to imagine cults armed with weapons of mass destruction.

Aum Shirikiyo, or Supreme Truth, offers the most chilling example of what a doomsday cult can achieve. Aum was founded in 1987 by Shoko Asahara, a blind former yoga teacher, and its members were waiting for the end of the world, which Asahara prophesied would come in the late 1990s through a nuclear apocalypse. With its financial assets and a technical knowledge base, Aum began experimenting with and producing chemical agents such as sarin, VX, phosgene, and sodium cyanide, and biological weapons including anthrax, botulism, and Q fever.

As Japanese and American authorities began investigating the group in the wake of attack, they discovered that Aum Shinrikyo owned a 12 acre chemical weapons factory in Tokyo, had \$1billion in its bank accounts, operated a farm in Australia where it practiced gassing sheep, and claimed 60,000 adherents worldwide.

## **2. What Nuclear Weapons Could Terrorist Use?**

In May 1997, General Alexandr Lebed, the national security adviser to Russian president Boris Yeltsin, acknowledged that the Russian government could not account for 84 one-kiloton Soviet suitcase nuclear devices. The Russian government reacted to Lebed's claim in classic soviet style, combining wholesale denial with efforts to discredit the messenger. Official government claimed that (1) no such weapons ever existed; (2) any weapons of this sort had been destroyed; (3) all Russian weapons were secure and properly accounted for; (4) it was inconceivable that the Russian government could lose a nuclear weapon.

## THE NUCLEAR INVENTORY

Technically, it is possible for terrorists to employ any several hundred models of some 20,000 nuclear bombs in the global inventory.

A nuclear weapon is a device that uses atomic fission to create a huge explosion. To achieve a nuclear explosion, a minimum of 35 pounds of Highly Enriched Uranium

(HEU), or 9 pounds of plutonium, is required. Explosions from nuclear bombs are thus measured in kilotons, which are equivalent to the destructive power of thousands of tons of dynamite or TNT. A single stick of dynamite weighs 5 pounds; a kiloton thus equals 400,000 sticks of TNT.

Superpower Cold War arsenals also include thermonuclear bombs, or hydrogen bombs, whose explosive power is thousands of times greater than the Hiroshima bomb. Indeed, the arsenals of both the United States and Russia today contain individual weapons that have more destructive power than all the nonnuclear bombs dropped by all the air forces of the world in all the wars in human history, including the recent bombing campaign against Iraq. These modern warheads sit atop intercontinental ballistic missiles (ICBMs) capable of delivering their payload in less than an hour to targets thousands of miles away. The other types of bombs include suitcase nuclear devices; backpack weapons; atomic land mines; air-defense warheads; and 120-pound atomic artillery shells designed to destroy an enemy force at a 200-mile range.

Another type of bombs are dirty bombs, which experts call radiological dispersal devices, are mechanisms designed to scatter radioactive material without triggering a nuclear explosion. Radiation bombs can take many forms – from sticks of dynamite packed in a briefcase with cesium to a fertilizer-based truck bomb wrapped in cobalt. Upon detonation, the radioactive material is pulverized and spewed into the environment.

### **3. Where Could Terrorists Acquire a Nuclear Bomb?**

Today there are more than 200 addresses around the world from which terrorists could acquire a nuclear weapon.

#### **RUSSIA**

At the end of the Cold War, 22,000 tactical nuclear weapons remained in 14 of the 15 newly independent states of the former Soviet Union, as an integral part of the standard equipment of the military units stationed there. The equipment included nuclear warheads for surface-to-air missiles at air defense posts around the Soviet border, as well as nuclear bombs for fighter aircraft in several hundred storage depots.

In light of these realities, it is conceivable that 22,000 nuclear weapons – which are much more valuable than steel or aluminum – were recovered without a single loss? As Secretary Defense Cheney observed in 1991, recovery of 99% of the weapons would constitute “excellent” performance. But even that level of efficiency would leave 220 highly portable nuclear weapons lost, stolen, or otherwise unaccounted for.

But Russia keeps on persisting that no responsible party could lose something so important. And yet we know that not only the Soviet Union but also the United States lost numbers of nuclear weapons during the Cold War. At least 4 Soviet submarines, armed with a total of 40 nuclear weapons, sank during the Cold War. And in 1966, the U.S. Air Force accidentally dropped a 20-megaton nuclear bomb in the Mediterranean Sea during a high altitude refueling mission near Palomares, Spain.

In the first year after the fall of the Soviet Union, the German government reported more than 700 cases of attempted nuclear sales, including 60 instances that involved seizure of nuclear materials. The U.S. National Intelligence Council confirmed 4 cases, between 1992 and 1999, in which “weapons-grade and weapons-usable nuclear materials have been stolen from some Russian institutes”.

During the Cold War, the Soviet Union established a vast nuclear enterprise under its Ministry of Atomic Energy that employed more than a million people in 10 “closed” cities requiring special entry and exit visas. The scientists and technicians in these cities designed and built weapons and produced uranium and plutonium not only for weapons but also for the fuel that powered the nation’s fleet of nuclear-power submarines and its nuclear power plants. U.S. experts have estimated that Russia possesses over 2 million pounds of weapons-usable material, or enough for more than 80,000 weapons. Yet a dozen years after the dissolution of the Soviet Union, much of this vast stockpile remains dangerously insecure. In February 2001, U.S. General Accounting Office reported, describing its inspectors’ visit to a Russian nuclear facility at which the door to the main area with nuclear material was left wide open, and another in which guards did not respond when metal detector went off.

## PAKISTAN

Pakistan was trading nuclear centrifuge technology for North Korean ballistic missile parts in order to enhance its nuclear deterrent against its archrival, India. Pakistan is thought to possess as many as 50 nuclear weapons and enough HEU for 50 more, plus production lines that can reliably supply 5 to 10 new bombs a year.

Like Libya, Saudi Arabia certainly supplied much if the funding for Pakistan's nuclear program under Dr.Khan. U.S. Officials fear that Al Qaeda's ideological soul mates are increasingly active in Pakistan's military, intelligence cadres, and nuclear establishment, and may be playing a role in nuclear transfers to terrorist groups.

## NORTH KOREA

North Korea first acquired basic nuclear technology when the former Soviet Union supplied a small research reactor in 1967. A decade later, it built a thirty-megawatt thermal reactor capable of generating enough plutonium for 1 bomb per year, the first of what would grow into seven plutonium production sites.

In October 2002, the North Koreans admitted to Bush administration envoys that they had developed a secret uranium enrichment program (almost certainly based on Pakistan's centrifuge blueprint). By the end of the year, they expelled IAEA inspectors from the country, withdrew from the Nuclear Nonproliferation Treaty, and began reprocessing the 8,000 spent fuel rods from the Yongbyon nuclear reactor that they had agreed to freeze in 1994 enough for about 5 or 6 six bombs.

In April 2003, North Korea chief representative told that Pyongyang will "export nuclear weapons, add to its current arsenal, or test a nuclear device". In essence, North Korea is a mafia state. Some of the regime's ambassadors fund their embassies through black-market dealings in methamphetamine, heroin, and cocaine. This extensive expertise in illicit international trade leaves North Korea supremely qualified to move fissile material around the globe to willing buyers.

## NUCLEAR RESEARCH REACTORS

In 1972, General Atomic, a San Diego – based company specializing in civilian nuclear energy, sent uranium bar no.6916 to the Triga H research reactor it designed in Kinshasa,

Zaire. The reactor was part of America's Atom Peace program through which U.S. exported 1,650 pounds of plutonium and 60,000 pounds of HEU to 39 countries over 30 years. Funding for the reactor ceased in 1988, and it was shut down in 1992. 5 years later, 8 uranium bars, including no.6916, were spirited out of the country and into the black market. The Uranium find its way into the hands of the Sicilian Mafia.

There are at least 130 operating research reactors fueled with HEU in more than 40 countries, all but a handful of which were supplied by either the United States or the Soviet Union during the Cold War. Shut-down facilities in Belarus are said to have over 600 pounds of HEU; those in Ukraine, over 150 pounds. But the main question here is, Who will get to them first: the nuclear clean-out team or the terrorists?

#### THE UNITED STATES

In 1997, one of the most heavily guarded areas of the Los Alamos National Laboratory in New Mexico, known as Technical Area-18 (TA-18), was breached. Fortunately, the "terrorists" were a team of Army Special Forces commandos carrying out a planned security exercise, using lasers instead of real bullets.

In 1998, Navy SEALs conducted a similar drill at the Rocky Flats Nuclear Laboratory in Denver, Colorado, and successfully stole several bombs' worth of plutonium without getting caught.

There are 10 major sites in the United States with enough weapons-grade plutonium or HEU for a nuclear weapon. There are 1.27 million pounds of HEU and 200,000 pounds of plutonium stored in America's nuclear complex.

#### **4. When Could Terrorists Launch The First Nuclear Attack?**

In 1977, a Princeton undergraduate named John Aristotle Phillips demonstrated the truth of President's Bush's assertion that with fissile material on hand, a nuclear bomb could be built in "less than a year". Phillips decided to investigate whether he could design a nuclear weapon from publicly available information. He began with basic college textbooks on nuclear physics, but later turned to the U.S. government for more specifics

about nuclear bombs. For \$25 he purchased copies of *The Los Alamos Primer: The First Lectures on How to Build an Atomic Bomb* and other technical papers.

Phillips had approached his assignment as if he were a terrorist. His bomb had to be inexpensive, simple, and small enough to be transported by car or truck. As he developed his weapon, Phillips identified and solved the most difficult problem facing any terrorist trying to build an implosion bomb: calculating the arrangement of explosives needed to collapse the plutonium core and cause a nuclear explosion. Knowing little about explosives, he called the DuPont Company for help. When he asked the chemical explosives division what materials would be useful for compressing high-density metals, a DuPont engineer told him the exact type that the company had sold the U.S. government for use in nuclear weapons. With this information in hand, he completed his thesis in 5 months. The resulting design was a perfect terrorist weapon: a bomb the size of a beach ball, with a ten-kiloton yield and a price tag of \$2,000. After he submitted his paper to the school, they, concerned that paper might fall into wrong hands, turned it over to the U.S. government, where it was immediately classified “secret”.

Once terrorists have bought or stolen a nuclear weapon in good working condition, they can explode it as soon as it reaches their target. If the weapon has a lock, the date of detonation can be delayed for several days. If the bomb has not been properly maintained, weeks of reconditioning may be required to ensure the maximum blast. Many of the most vulnerable weapons in the former Soviet arsenal are “beyond warranty” and thus might need maintenance before becoming operational. Even the PALs and ESDs installed on nuclear weapon can temporarily delay, but cannot prevent terrorists from using them in a case if they are stolen. Even if sophisticated locking devices, poor maintenance, or damage in transit rendered a stolen weapon inoperable, it would still be useful to terrorist.

National security experts agree that the most likely way terrorists will obtain a nuclear bomb will not be to steal or purchase a fully operational device but to buy fissile material and construct their own. If a terrorist group obtained plutonium, or an amount of HEU too small to utilize in the gun design, it could attempt to build an implosion-based bomb.

Producing fissile material from scratch is likely to prove too difficult for terrorists. A nuclear explosion requires 1 of 2 essential elements: uranium-235 and plutonium. In order

to obtain uranium-235 the uranium ore should go through the enriching process. This process requires about 1,500 centrifuges, working in a chain called a “cascade”, for about one year to gather enough uranium-235 for a single bomb. According to international standards, uranium containing more than 20% of the isotope uranium-235 is “highly enriched”. For use in bombs, uranium is generally enriched to a level of 90%. The second element that can be used in a nuclear bomb is plutonium-239, a synthetic element.

Terrorist unable to buy or steal a nuclear weapon or fissile material, but intent on nuclear terror, could attack a nuclear power plant or detonate a dirty bomb. An attack on a nuclear power plant could occur whenever terrorist hijack a commercial airplane or charter a private one and fill it with conventional explosives.

### **5. How Could Terrorist Deliver a Nuclear Weapon to its Target?**

On August 23, 2003, a suitcase containing 15 pounds of nuclear material was successfully shipped from Jakarta, Indonesia, to the Port of Los Angeles inside a cargo container aboard the *Charlotte Maersk*. Container one of the thousand arriving at the port that Saturday, passed through Customs unopened and was stored in an adjacent bonded warehouse until it was picked up by Superior Dispatch Trucking. The driver for Superior paid the \$60 custom fee, took 110 Freeway through downtown Los Angeles, and delivered the cargo to a storage warehouse one mile from the LA Convention Center.

The shipment was a test designed by ABC News investigative reporter Brian Ross to highlight the ease with which terrorists could smuggle nuclear material through U.S. borders.

In Jakarta the pipe containing the depleted uranium was placed inside an ordinary Samsonite suitcase, which went into a teak trunk. The forwarding company asked no questions about the contents of the trunk. They repeated “to stuff anything you want inside the container and don’t worry, we’ll take care of the paperwork”. So with such ease the cargo was delivered to the states.

Every day, 30,000 trucks, 6,500 rail cars, and 140 ships deliver more than 50,000 cargo containers with more than 500,000 items from around the globe. Approximately 21,000

pounds of cocaine and marijuana are smuggled into the U.S.A. each day in bales, crates, car trunks – even FedEx boxes.

In September 2003, a homesick young man in th Bronx named Charles McKinley avoided the cost of an airline ticket by shipping himself to Texas on a cargo plane. McKinley asked a friend to pack him into a shipping crate with a tag declaring the contents to be computer equipment and clothing. Because the company McKinley listed as the crate's sender was classified as a "known shipper", its cargo was never a subject to inspection.

Despite intense scrutiny and billions of dollars in federal spending, screening of passengers and their luggage at American airports remains inadequate. 5 undercover agents from the Department of Homeland Security successfully smuggled knives, a bomb, and a gun through several security checkpoints at the airport without being detected.

Recognizing this weakness, the U.S. has begun installing new detection equipment at major points of entry. At the Ambassador Bridge, trucks now drive through radiation-sniffing portals as they cross the border. In July 2003, after these devices were installed, inspectors became accustomed to finding trace amounts of radioactivity in 3 of 4 garbage trucks each week.

Unfortunately, terrorists who do their homework will realize that they can simply ship their nuclear cargo by land, air, or sea to any address in the country and expect it to arrive uninspected up to 95% of the time.

In February 2002, officials from the Drug Enforcement Administration (DEA) discovered a four-foot-wide, 1,200-foot-long tunnel that ran twenty feet underground from Mexico to the small border town of Tecate, California, 70 miles East of San Diego. Through that tunnel, an underground rail system was used to "smuggle billions of dollars' worth of cocaine, marijuana, and other drugs into the United States for several years," according to the officials.

To a smuggler, the U.S. border must look like a gigantic piece of Swiss cheese, with holes big enough to drive a truck through. Indeed, in many places, the border disappears altogether. 21 different American Indian reservations stretch across hundred of miles of

the northern and southern borders, and no state or federal agency has jurisdiction to patrol these lands.

Almost all the smuggling routes that are used in bringing illegal immigrants or drugs into the U.S. would be an equally effective way to transport a nuclear weapon across the border.

There are numerous terrorist groups, from Al Qaeda to Hezbollah to various doomsday cults, who would have the motive and capacity to seek out nuclear weapons. The deadly effects of these weapons far exceed those of conventional munitions. Nuclear material and weapons are poorly guarded in much of the former Soviet Union and in the developing world, and proliferators like Pakistan and North Korea are making this bad situation worse. If terrorists do get their hands on a nuclear device or on highly enriched uranium or plutonium, they could easily make a bomb operational within a year. And once they have a nuclear weapon in hand, America's porous border control will offer little resistance as they seek to deliver the bomb to its target. Whether the question asked begins with who, what, where, when, or how, the answer comes back the same. If we continue along our present course, nuclear terrorism is inevitable.

But this is not a counsel of fatalism. Unlike many intractable problems facing humankind, nuclear terrorism is preventable if we act now to make it so.

## **6. Through the Prism of 9/11**

Al Qaeda's attack on September 11 awakened Americans to their vulnerability to a catastrophic terrorist attack. The security bubble in which they have lived burst, and ordinary men and women across the country discovered fear – personal fear of attack by shadowy figures in distant lands. Despite America's overwhelming military, political, and economic power, a determined band of terrorists toppled 2 of their tallest building in a flash. Al Qaeda had trained thousands of terrorists for attacks like 9/11.

9 days after the attacks on the World Trade Center and the Pentagon, President Bush officially declared war on terrorism. President Bush also insisted from the outset that the

war extend beyond the perpetrators of 9/11 to include all the terrorists with global reach: “Our war on terror begins with Al Qaeda, but it does not end there,” he told the Congress.

Universal sympathy for the victims of the terrorist attacks led governments and citizens around the world to proclaim solidarity under the banner “We are all Americans”. A week after Bush’s speech, the UN Security Council unanimously passed Resolution 1373, requiring member states to undertake affirmative obligations to freeze terrorist assets, deny terrorist groups support or safe heavens, cooperate with other governments to prevent terrorist acts and prosecute those who commit them, and criminalize active and passive assistance for terrorist activity. A special Counterterrorism Committee was established.

Conceptually, the president’s war on terrorism broke new ground in formulating what his staffers named the Bush Doctrine. “From this day forward,” he declared, “any nation that continues to harbor or support terrorism will be regarded by the United States as a hostile regime.”

The war in Afghanistan served as the first application of the Bush Doctrine and the opening salvo of America’s global war on terrorism.

## IDENTIFYING THE THREAT

For most of recorded history, only states have had the capacity to kill citizens of other states on a massive scale.

On 9/11, in an operation that cost less than \$500,000, a nongovernmental terrorist group executed a deadlier attack on the American homeland than any foreign government had managed in the country’s previous 200 years. As Vice president Cheney watched the chaos in New York following the collapse of the World Trade Center, he observed to an aide, “As unfathomable as this was, it could have been so much worse if they had weapons of mass destruction.” National Security experts agree that nuclear terrorism is the focal threat facing America today. Moreover, even during the most dangerous moments of the Cold War, a nation that attacked the United States with a nuclear-armed ballistic missile would know that it had signed its own death certificate, since U.S. retaliation would be immediate and overwhelming. But another complicating factor is that the ground troops of

Islamist terrorism are unaffected by a fear of death, making deterrence inoperable as a strategy.

### SEARCHING FOR A STRATEGY

Having identified the threat, the president and his team have struggled to devise an appropriate response.<sup>3</sup> distinctive features of the administration's efforts to date have emerged. First, the administration decided to go on the offensive against terrorists. As the *Washington Post* editorial columnist Fred Hiatt summarized the president's view: "if the nation learned a single lesson from Sept. 11, it should be this: that the only way to defeat terrorists is to attack them." Second, the administration chose to confront openly what it called the "axis of evil" – North Korea, Iran, and Iraq – threatening them with regime change. Third, and most controversial, the administration asserted a doctrine of "preemption", according to which it reserves the right to attack its adversaries before they attack the United States. In February 2003, the administration seemed to have adopted the Roman emperor Caligula's dictum *Oderint dum metuant*: "Let them hate as long as they fear."

The administration justified its focus on the axis of evil and adoption of a doctrine of preemption as necessary responses to a single unifying imperative: preventing another catastrophic terrorist attack on America. Singling out Iraq, Iran, and North Korea as threats in his 2002 State of the Union address, President Bush argued that "states like these, and their terrorist allies, constitute an axis of evil, arming to threaten the peace of the world." "By seeking weapons of mass destruction," the president said, "these regimes pose a grave and growing danger. They could provide these arms to terrorists, giving them the means to match their hatred."

### THE REAL COST OF THE WAR IN IRAQ

Whatever one thinks about the Bush administration's decision to go to war against Iraq, the fact remains that the stated reason for toppling Saddam Hussein – his possession of a cache of nuclear, biological, and chemical weapons – does not withstand close scrutiny. Deputy Secretary of Defense Paul Wolfowitz acknowledged as much in a candid *Vanity Fair* interview in which he explained: "For bureaucratic reasons, we settled on one issue, weapons of mass destruction, because it was the one reason everyone could agree on."

By devoting most of its energy and leverage to Iraq during 2002 and 2003, the United States neglected higher-priority threats to its national security. North Korea and Iran were essentially given breathing room to advance their own nuclear ambitions. In the immediate aftermath of 9/11, objective assessments of the danger of nuclear terrorism identified North Korea as a greater potential threat than Iraq. In the State Department's annual report on terrorism, Iran holds the uncontested distinction as "the most active state sponsor of terrorism." It continues importing the equipment and material required to establish its own facilities to manufacture centrifuges for uranium enrichment.

In the fall 2003, a poll of citizens in all 15 European Union nations produced results no one had anticipated, and that most Americans still find unbelievable. Asked which nations pose a "threat to world peace", citizens in every European country put the United States at the top of the list, alongside North Korea and Iran.

In Indonesia, the nation with the largest Muslim population in the world and a critical battleground in the war on terrorism, the U.S. favorability rating fell from 61% in early 2002 to 15% in the summer of 2003. A year after the war in Iraq, a substantial majority of Pakistanis, Turks, Jordanians, and Moroccans found U.S. motives in the war on terrorism suspect, and believed that the United States was overreacting to the threat. Asked whom they trust to "do the right thing in world affairs", more Pakistanis, Indonesians, and Jordanians chose Osama bin Laden than President Bush.

Ironically, the U.S. war in Iraq realized bin Laden's vision, convincing majorities across the Muslim world that the "Christian-Zionist crusaders" had launched a war of civilizations against Muslims around the world. Osama had been saying for years, "America wants to invade an Arab country and occupy it, an oil-rich Arab country" So what did Americans do after 9/11? In other words, they stepped right into bin Laden's propaganda.

There are 2 arguments for launching war against Iraq in the spring of 2003. 1) Saddam was racing to acquire a nuclear capability that he could transfer to Al Qaeda or other terrorists; 2) Saddam posed an imminent threat that required immediate action. The assertions regarding Saddam's nuclear and other WMD programs were simply wrong. Just days before the beginning of the war, Cheney took that claim even further on *Meet the*

*Press*: “We believe Saddam Hussein has, in fact, reconstituted nuclear weapons”. In a later, postwar appearance at the same place, he confessed, “I did misspeak”.

The U.S. intelligence community found out, that in the absence of a U.S. attack, the likelihood of Saddam attacking America with chemical and biological weapons in the future was “low”. On the other hand, if Saddam became convinced that they were about to topple his regime, intelligence analysts concluded, the likelihood he would attack them with chemical or biological weapons was “high”. In sum: to prevent an attack whose likelihood was low, the U.S. was taking action that made the likelihood of that attack high.

While the Bush administration has correctly identified the threat of nuclear terrorism, it has not formulated a comprehensive strategy to address it.

## **7. Where We Need to Be: a World of 3 NO’s**

For all the dangers enumerated earlier a simple fact remains: nuclear terrorism is, in fact, preventable. Only a fission chain reaction releases the vast blast of energy that is the hallmark of a nuclear bomb. No fissile material, no nuclear explosion, no nuclear terrorism. It is that simple.

The centerpiece of a strategy to prevent nuclear terrorism must be to deny terrorists access to nuclear weapons or materials. To do this, we must shape a new international security order according to a doctrine of “3NO’s”:

- No Loose Nukes
- No New Nascent Nukes
- No New Nuclear Weapons States

The first strand of this strategy – “No Loose Nukes” – begins with the recognition that insecure nuclear weapons or materials anywhere pose a grave threat to all nations everywhere. The international community can thus rightly insist that all weapons and materials – wherever they are – be protected to a standard sufficient to ensure the safety of citizens around the world. Russia, which holds the largest stockpile of actual and potential nuclear weapons, has been the principal focus of concern for the past decade, but in recent years a new, urgent test of this principle has come from Pakistan, where the developer of

its nuclear establishment has been exposed as the kingpin in black-market sales of nuclear weapons technology.

Application of the second principle – “No New Nascent Nukes” – would prevent the construction of any national production facilities for enriching uranium or reprocessing plutonium. The head of the International Atomic Energy Agency, Mohamed El Baradei, now recognizes that the existing system under the Nuclear Nonproliferation Treaty (NPT) erred in allowing nonnuclear states to build uranium enrichment and plutonium production plants. In his words, “This is a different ball game, and we have to change the rules”.

The third element of this strategy draws a line under the current eight nuclear powers – the United States, Russia, Great Britain, France, China, India, Pakistan and Israel – and declares unambiguously, “No More”. North Korea poses a decisive challenge for the “No New Nuclear weapons States” policy. Unless its current plans are aborted, North Korea will soon have something like 8 nuclear weapons and facilities for producing a dozen more each year. If North Korea becomes a nuclear weapon state, South Korea and Japan will almost certainly go nuclear in the decade thereafter, making Northeast Asia a far more dangerous place than it is today.

In fact, most of the world is already signed up to the third no, could live with the second no, and supports the first. The 3 NO’s framework stretches beyond current realities, but not further than we have stretched before. As a result, today 183 nations, including scores that have the technical capacity to build arsenals, have renounced nuclear weapons and have committed themselves, in the NPT, to eschew the nuclear option.

## **8. Getting From Here to There: a Road Map of 7 YESes**

Transforming the predicament we face today into a world of 3 NO’s will require major changes in the agenda and daily actions of the United States and other governments. As dramatically as we moved beyond prosecuting terrorists before 9/11 to the war on terrorism thereafter, we must now move to a war on nuclear terrorism. While the centerpiece of this effort should be to realize the 3 NO’s in Russia and Pakistan, Iran and North Korea, full-scale war on nuclear terrorism will require many related initiatives. Here we summarize the most important of these under the rubric of 7 YESes:

- Making the prevention of nuclear terrorism an absolute national priority
- Fighting a strategically focused war on terrorism
- Conducting a humble foreign policy
- Building a global alliance against nuclear terrorism
- Creating the intelligence capabilities required for success in the war on nuclear terrorism
- Dealing with dirty bombs
- Constructing a multilayered defense

#### MAKING THE PREVENTION OF NUCLEAR TERRORISM AN ABSOLUTE NATIONAL PRIORITY

As the saying goes, priority is measured not by what you say but by what you do. We should consider 4 key fronts in a real war on nuclear terrorism. First, while money is not the most important thing, it nonetheless provides the wherewithal for necessary actions. Second, the president should appoint an individual of stature who reports directly to him as his commander in a real war on nuclear terrorism. Third, the president must make prevention of nuclear terrorism a priority for himself personally, as well as for the secretary of defense, the secretary of state, the secretary of the Treasury, the director of central intelligence, the secretary of homeland security, the attorney general, the director of FBI, and many other key officials. Fourth, in his meetings and phone calls with foreign leaders the president must convince them to embrace this priority.

#### FIGHTING A STRATEGICALLY FOCUSED WAR ON TERRORISM

The German philosopher Friedrich Nietzsche observed that “the most common form of human stupidity is forgetting what one is trying to do”. In war on terrorism, the U.S. government has had great difficulty staying strategically focused. The U.S. spent costs of billions against the terrorists’ cost of millions”.

#### CONDUCTING A HUMBLE FOREIGN POLICY

George W. Bush stated, “if we are an arrogant nation, they will resent us, but if we are a humble nation, but strong, they will welcome us”. Unfortunately, either the president forgot his advice or he did not mean it. As a consequence, in an era when America’s share of world power has never been greater, its international standing has fallen to the lowest point in modern history.

A durable peace would require new institutions that engaged the other great powers, and indeed the world, in shared undertakings. The United Nations, the North Atlantic Treaty Organization, the U.S.-Japanese Security treaty, and, in the economic sphere, the International Monetary Fund, the General Agreement on Tariffs and Trade, and the World Bank provided structures within which to address issues of common concern.

#### BUILDING A GLOBAL ALLIANCE AGAINST NUCLEAR TERRORISM

The United States cannot undertake or sustain the war on nuclear terrorism unilaterally. Each nation's best hope to achieve conditions essential for its security requires cooperation with the others. The mission of such a Global Alliance should be to minimize the risk by taking every action physically, technically, and diplomatically possible to prevent nuclear weapons or materials from being acquired by terrorists.

Existing alliances are ill suited to address this global security threat. NATO covers one area, the U.S.-Japanese Security treaty another. The nuclear nonproliferation regime consists of a patchwork of treaties like the NPT; informal agreements like the Nuclear Suppliers Group and the Proliferation Security Initiative; nuclear free zones in Latin America, Southeast Asia, and the Australia-Pacific region; and assorted bilateral pacts. Meeting the threat of nuclear terrorism will require a global response.

Construction of this new alliance should begin with Russia and the United States. Americans and Russians have a special obligation to address this problem, since they created it – and since they still own 95% of all nuclear weapons and materials.

Initially, members of the alliance would join in 5 common undertakings. First, they would embrace the gold standard for all nuclear weapons and materials on their own territory and the program to speed the clean-out of all potential nuclear weapons at research reactors or other facilities that cannot be secured. Second, the alliance would shape a consensus in support of, or at least acquiescing to, enforcement of the 3 NO's, beginning with North Korea, Iran, and Pakistan. Third, it should develop a robust nonproliferation regime to shut down the sale and export of nuclear technologies, materials, and know-how. Fourth, the alliance should adapt a lesson learned in U.S.-Russian venture campaigns against Al Qaeda – especially the importance of intelligence sharing and affirmative counterproliferation, including disruption and preemption to prevent acquisition of

materials and know-how by nuclear wannabes. Finally, the alliance should be not just a signed document but a living institution committed to its mission.

#### CREATING THE INTELLIGENCE CAPABILITIES REQUIRED FOR SUCCESS IN THE WAR ON NUCLEAR TERRORISM

In David Kay's one-word summary, American intelligence about large stockpiles of Iraqi weapons of mass destruction was "wrong". The CIA has essentially lost any serious capability for clandestine operations: either collection or covert action. In 1991, when Kay led a team of inspectors in Iraq after the Gulf War, he had been surprised to find that the CIA had no secret agents there. The above all, intelligence assessments must be credible.

#### DEALING WITH DIRTY BOMBS

The good news about dirty bombs and attacks on nuclear reactor is that they present far less catastrophic threats than true nuclear terrorism. The bad news, however, is that radioactive materials are so widely available in the industrial economies that even a determined effort to deny terrorist access to such materials is bound to fail. What, then, is to be done? First, we must have more stringent accounting and control of the radioactive isotopes with the greatest potential to produce mass disruption if dispersed by terrorists. That list includes cesium, used in cancer treatment; cobalt, utilized to irradiate food to kill bacteria; and americium, used in the mining industry to search for oil sources. Second, we must improve our ability to detect radioactive materials at airports and harbors, on highways, and at other potential target sites. We also need to improve our ability to respond in the event of attack.

Perhaps the most important thing that the government can do, however, is to be prepared to educate and communicate with the public. A dirty-bomb report submitted in 1999 to the Air Command and Staff College concluded that "panic might produce casualties and damage far in excess of the actual device itself".

#### CONSTRUCTING A MULTILAYERED DEFENSE

The only way to eliminate the threat of nuclear terrorism is to lock down the weapons and materials at the source. The U.S. must convince all nations to strengthen their domestic laws against trafficking in nuclear materials and technology. Also international export and border controls should be strengthened.

Nothing of the preceding discussion is meant to suggest that implementing the 7 YESes is going to be easy. It is not. It will take time, and money, and the courage of our convictions to stay focused on the single goal of preventing a nuclear terrorist attack.

## CONCLUSION

“WHILE THE PAST IS FIXED, THE FUTURE IS CONTINGENT ON ONES ACTIONS”- Charles Dickens.

A president who takes the threat of nuclear terror seriously would assemble the members of the core national security team and work with them to develop a comprehensive strategy, an operational plan, and a specific timetable for achieving measurable objectives over the next 100 days, the next year, and beyond. Key pillars in what might become a ten-point program have been discussed above:

- Absolute national priority for himself and his administration
- A gold standard for nuclear weapons and materials to make them as secure as gold in Fort Knox
- A global alliance against nuclear terrorism
- Global clean-out
- Stopping new national production of fissile material – beginning with Iran
- Shutting down nuclear black markets – focusing first on Pakistan
- Blocking the emergence of nuclear weapons states – starting with North Korea
- Revising nuclear weapons states’ postures and pronouncements
- Prosecuting the war on terrorism