

News and Discussion

Troubling rise in Teen Uranium Enrichment

http://www.youtube.com/watch?v=ED3qoGEiWcU&feature=player_embedded

Physics/Global Studies 280

Module 4: Nuclear Terrorism

Nuclear Terrorism

Topics covered in this module:

Part 1: Terrorism and how to counter it

Part 2: Insurgencies and how to counter them

Part 3: Reducing the threat of nuclear terrorism

Key sources:

U.S. Nuclear Weapons Policy, Chapters 4 & 5

What Terrorists Want, by Louise Richardson

Nuclear Terrorism, by Graham Allison

Current Affairs Reading Assignments

Physics/Global Studies 280

Terrorism and How to Counter It

The Importance of Understanding Terrorism

Endeavoring to understand or explain terrorism is not to sympathize with it.

Indeed, understanding the appeal of terrorism is the best way to forge effective counterterrorism policies.

Example: Gaining an understanding the Shining Path Maoist movement in Peru was much more effective in countering it than attempting to smash it —

- It had 10,000 members in the 1980s and controlled a large area of Peru
- Thousands of armed military and paramilitary forces were deployed over 20 years
- Shining Path and military units killed ~ 70,000 people, but terrorism did not diminish
- Only when the government established a special 70-man intelligence unit to study the Shining Path was it successfully countered
- The intelligence unit discovered that the leadership of the movement was highly centralized and depended on the academic Abimael Guzmán
- They studied everything about him and discovered he had a particular skin condition
- By old-fashioned police work and good electronic intelligence, Guzmán was tracked down through his medical prescription and captured with several of his top lieutenants

11p280 Nuclear Terrorism, p. *The Shining Path never recovered* Frederick K. Lamb © 2011

Terrorism and How to Counter It

Topics covered here and in the readings —

- What is terrorism?
- Where have terrorists come from?
- What causes terrorism?
- The three Rs of terrorism
(*Revenge, Renown, Reaction*)
- Why do terrorists kill themselves?
- What changed on 9/11 and what did not
- Why a “war on terror” can never be won
- What is to be done?

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Categories of Violent Political Activity (Important)

Terrorism: *Deliberately and violently targeting civilians for political purposes* (all 4 criteria must be met)

Insurgency: An organized movement aimed at the overthrow of a constituted government through use of subversion and armed conflict. Insurgents may or may not commit terrorist acts.

Guerilla warfare: A type irregular warfare and combat in which a small group of combatants use mobile military tactics in the form of ambushes and raids to combat a larger and less mobile formal army. Guerilla warfare is not terrorism.

"Regular armed forces" must satisfy the four Hague Convention (Hague IV) conditions (1899 and 1907): they must (1) be commanded by a person responsible to a party to the conflict, (2) have a fixed distinctive emblem recognizable at a distance, (3) carry arms openly, and (4) conduct operations in accordance with the laws and customs of war.

What is Terrorism?

Terrorism is *deliberately and violently targeting civilians for political purposes*.

Terrorism often (but not always) has 3 other characteristics —

1. The point of terrorism is not to defeat the enemy but to send a message.
2. The act and the victim usually have symbolic significance.
3. The *victim* of the violence and the *audience* the terrorists are trying to reach *are not the same*.

Terrorism Carried Out by Governments – 1

Richardson argues that to have a clear understanding of the behavior of *terrorist groups*, we must understand them as sub-state actors. Although they and their leaders are not *terrorist groups*, states may engage in terrorism.

The terrorism committed by states can be divided into three categories:

1. State-sponsored terrorism: State sponsorship of terrorist acts against inhabitants of *other* countries as an instrument of foreign policy.

For example, to hurt other countries without risking the consequences of overtly attacking them (e.g., Libyan support of terrorist acts against U.S. interests during the 1980s, Iraqi support of Palestinian terrorist acts against Israel during the 1990s, Iranian support of terrorism against Israel by Hezbollah in Lebanon and Hamas in Gaza).

For example, as a way to engage in proxy warfare or covertly bring about internal change in another country without risking a direct confrontation (e.g., U.S. support of terrorist groups in Angola and Nicaragua in the 1980s).

Terrorism Carried Out by Governments – 2

2. State terrorism: Use of terrorism by a government against its own citizens, to coerce them into accepting the government's authority (examples: Germany in the 1930s, Argentina in the 1970s, Iraq in the 1980s and 1990s).

3. War terrorism: Use of terrorism by a government against the civilians of another country with which it is at war (examples: the German and Allied bombing campaigns in World War II, which damaged London and destroyed Dresden, Hiroshima, and Nagasaki and were deliberate efforts to target civilian populations in order to force the hands of their governments).

Collective punishment of communities that produce terrorists is another example of targeting civilians to achieve political ends and is therefore terrorism.

What is Terrorism?

The New York Times

February 26, 2009

The perception gap, which grew wider when President [George W. Bush](#) declared his war on terror in 2001, was blown even further apart in Gaza, when most Arabs came away certain who the real terrorists were.

“Public opinion views what happened in Gaza as a kind of terrorism,” said Muhammad Shaker, a former Egyptian ambassador to Britain. “And on the other side, they see Hamas and other such organizations as groups who are trying to liberate their countries.”

Many here said they saw little distinction between Hamas’s shooting rockets into civilian areas of [Israel](#) and Israel’s shooting rockets into civilian areas of Gaza, even if Hamas militants were operating there or just hiding out.

What is Terrorism?

**Bulletin
of the
Atomic
Scientists**

An American suicide bomber?

BY HUGH GUSTERSON | 20 JANUARY 2010

What is Terrorism?

"As for the Taliban fighters, they not only don't cherish life, they expend it freely in suicide bombings. It's difficult to imagine an American suicide bomber," *Washington Post* pundit Richard Cohen opined in a recent column. A few columns later Cohen returned to this theme, which clearly matters considerably to him: "There is really no such thing as an American suicide bomber. We don't extol the bomber and parade his or her children before the TV cameras so that other children will envy them for the death of a parent. This is odd to us. This is chilling to us. This is downright repugnant." Cohen added, "Maybe we have come to cherish life too much."

"The Cold War turned the entire United States into a suicide bomber rehearsing obsessively for the moment when we would 'push the button' and take down millions of our enemies with us. Seen in this light, Americans trained for the biggest suicide bombing mission of all."

Understanding Terrorists – 1

Richardson points out that:

- Terrorism, even religious terrorism, is neither new nor the primary preserve of Islam
- Terrorists have sometimes later become statesmen
- People strongly opposed to terrorism have been labeled terrorists

She argues that the causes of terrorism are not to be found in objective conditions of poverty or privation or in a ruthless quest for dominance, but rather in a "lethal triple cocktail" that combines —

- 1.a disaffected individual
- 2.an enabling community
- 3.a legitimizing ideology

Richardson argues that terrorists are neither crazy nor amoral but rather are rationally seeking to achieve a set of objectives within self-imposed limits.

Understanding Terrorists – 2

Richardson argues that —

- The behavior of terrorists can be understood in terms of
 - *long-term political objectives*, which differ across groups
 - *more immediate objectives*, which are shared by terrorists with very different long-term objectives
- Terrorists' generally have much more success achieving their immediate objectives than achieving fundamental change.
- When terrorists act, they are seeking 3 immediate objectives (the “3 Rs”):
 - to exact revenge
 - to achieve renown (glory)
 - to force their adversary to react

Physics 280: Session 13

Extra-Credit Essay Opportunity B
“Fear, Anger, and the American Response to Terrorism”
Professor John Lynn
Northwestern University
12:00–1:00 p.m. Friday, April 8
University YMCA, 1001 S. Wright St.

Plan for This Session

Student questions

News and discussion (Iran)

Module 4: Nuclear Terrorism (cont'd)

Next: “Last Best Chance” (docudrama)

News and Discussion

The New York Times

February 25, 2011



Iran Reports a Major Setback at a Nuclear Power Plant

By **WILLIAM J. BROAD** and **DAVID E. SANGER**

Iran told atomic inspectors this week that it had run into a serious problem at a newly completed nuclear reactor that was supposed to start feeding electricity into the national grid this month, raising questions about whether the trouble was sabotage, a startup problem, or possibly the beginning of the project's end.

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News and Discussion

In a report on Friday, the [International Atomic Energy Agency](#) said Iran told inspectors on Wednesday that it was planning to unload nuclear fuel from its Bushehr reactor — the sign of a major upset. For years, Tehran has hailed the reactor as a showcase of its peaceful nuclear intentions and its imminent startup as a sign of quickening progress.

But nuclear experts said the giant reactor, Iran's first nuclear power plant, now threatens to become a major embarrassment, as engineers remove 163 fuel rods from its core.

Iran gave no reason for the unexpected fuel unloading, but it has previously admitted that the [Stuxnet](#) computer worm infected the Bushehr reactor. On Friday, computer experts debated whether Stuxnet was responsible for the surprising development.

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News and Discussion

The new report from the I.A.E.A. — a regular quarterly review of the Iran nuclear program to the agency's board — gave the reactor unloading only brief mention and devoted its bulk to an unusually toughly worded indictment of Iranian refusals to answer questions about what the inspectors called “possible military dimensions” of its nuclear program.

The report alluded to “new information recently received,” suggesting continuing work toward a nuclear warhead.

But the inspectors provided no details about the new information or how it was received. The I.A.E.A. frequently gets its data from the intelligence agencies of member countries, including the United States, but it also tries to collect data from its own sources.

The report on Friday referred directly to concerns that Iran was working on “the development of a nuclear payload for a missile.” But it noted that all of its requests for information had been ignored for years, with Iranian officials arguing that whatever information the agency possessed, it was based on forgeries.

The 3 Standard Initial Reactions to Terrorism

There are 3 standard phases in an inexperienced nation's reaction to terrorism —

Phase 1: Demonstrate resolve by adopting a draconian response that goes largely unchallenged by the public

Phase 2: Polarization of politics —

- The right demands tougher measures and denounces opponents as unpatriotic
- The left objects to many coercive measures

Phase 3: More reasoned reflection, when —

- Draconian measures have failed to produce the desired results
- The adversary has demonstrated his implacable commitment to harming the nation

Six Basic Rules for Containing Terrorism

Rule 1: Have a defensible and achievable goal

- If the goal of the U.S. is to defeat terrorism or eliminate terrorism or eliminate evil, it can never be achieved
- If instead the goal of the U.S. had been to capture those responsible for the 9/11 attacks, it might very well have succeeded
- *Containing* the threat of terrorism *is* achievable
- By keeping this more modest and concrete goal firmly in sight and planning accordingly, the U.S. can ensure that its short-term tactics do not undermine its long-term goals

Rule 2: Live by your principles

Rule 3: Know your enemy

Six Basic Rules for Containing Terrorism (cont'd)

Rule 4: Separate the terrorists from their communities

Rule 5: Engage others in countering terrorists with you

Rule 6: Have patience and keep your perspective

U.S. counterterrorism policy after 9/11 did not initially follow these six rules, but it has improved with time, especially since Obama became President.

Usual Initial Reactions to Terrorism

The U.S. often believes it is unique and consequently fails to learn from history or from the experiences of other countries.

The language of warfare connotes action and immediate results. We need to replace this language with the language of development and construction and the patience that goes with it.

The U.S. is beginning to learn from its mistakes and is gradually becoming more adept at countering terrorists.

The Bush Administration's Reaction to 9/11

Richardson argues that when the history of the immediate post-9/11 years comes to be written, it will be seen as marked by two major mistakes and two major missed opportunities —

Two major mistakes:

- declaration of a “global war on terror”
- conflation of the threat posed by al-Qaeda with the threat posed by Saddam Hussein

Two major opportunities were missed:

- the opportunity to educate the American public to the realities of terrorism and the costs of our sole superpower status
- the opportunity to mobilize the international community behind us in a transnational campaign against transnational terrorists

The Bush Administration's Reaction to 9/11

Review

The term “war on terror” is nonsensical, because an armed attack on an emotion (terror) is logically impossible. We will not use this term in Physics 280.

The term “war on terrorism” is also nonsensical, because an armed attack on a tactic (terrorism) is also logically impossible. We will not use this term in Physics 280.

A “war on terrorists” would be a large-scale, sustained attack on terrorists by the military forces of a nation-state; while logically possible, it is not usually the most effective way to defeat terrorists.

The Changed Situation in the U.S. After 9/11

The biggest change — and the one with the most serious long-term implications, was our government's reaction to terrorism

Richardson argues that the declaration of a “global war on terror” —

- has been a terrible mistake
- is doomed to failure

She argues for a different approach —

- appreciate the factors driving the terrorists
- deprive them of what they need

Key Questions for Countering Terrorism

In thinking about counterterrorism policies, the question should *not* be

- Who's tough on terrorists?
- Who's soft on terrorists?

What matters is —

- *What actions are effective against terrorism?*
- *What are their costs?*

We are likely to experience terrorism in the future, just as we have in the past.

We are going to have to learn to live with and accept it as a price of living in a complex world in which communication is relatively easy.

The Relation of Democracy to Terrorism

Through improved security measures and enhanced intelligence, we can protect ourselves against the most dangerous weapons and the most sophisticated attacks.

It's important to remember that —

- Terrorists cannot derail our democracy by planting a bomb in our midst
- Our democracy can be derailed only if we conclude that it is inadequate to protect us
- Democratic principles are the strongest weapons against terrorists

Reducing the Threat of Nuclear Terrorism

Richardson argues we should recognize that —

- Terrorism will continue to be employed as long as it is deemed effective
- Technological developments will make it easier for ever smaller groups to employ weapons of ever greater lethality against us
- Political, social, and economic developments will continue to produce disaffected individuals
- We will never be able to prevent every attack, but we can control our reaction to those attacks

If we keep terrorist attacks in perspective and recognize that the strongest weapons in our arsenal against terrorism are precisely the hallmarks of democracy that we value, then we can contain the terrorist threat.

What Is to Be Done?

The Washington Post

Don't panic. Fear is al-Qaeda's real goal.

By Fareed Zakaria
Monday, January 11, 2010; A15

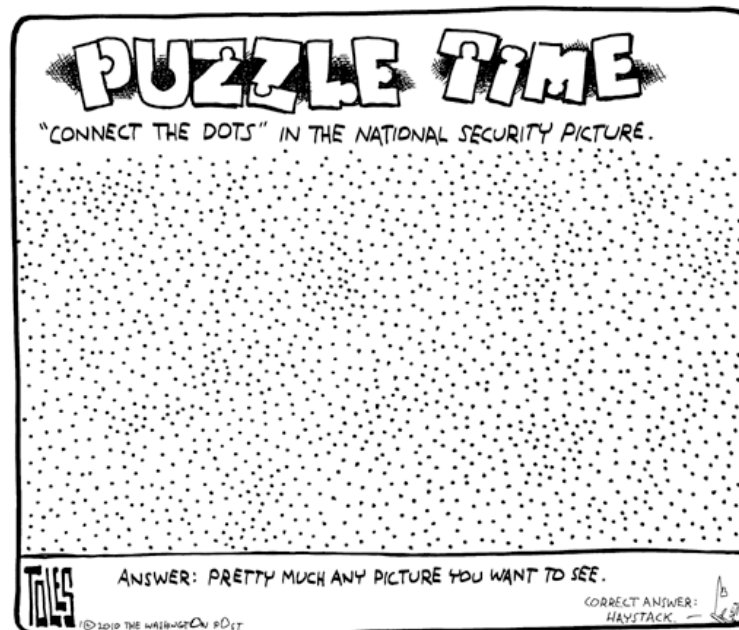
In responding to the [attempted bombing of an airliner](#) on Christmas Day, [Sen. Dianne Feinstein](#) voiced the feelings of many when she said that to prevent such situations, "I'd rather overreact than underreact." This appears to be the consensus view in Washington, but it is quite wrong. The purpose of terrorism is to provoke an overreaction. Its real aim is not to kill the hundreds of people directly targeted but to sow fear in the rest of the population. Terrorism is an unusual military tactic in that it depends on the response of the onlookers. If we are not terrorized, then the attack didn't work. Alas, this one worked very well.

What Is to Be Done?

Overreacting to terrorist attacks plays into al-Qaeda's hands. It also provokes responses that are likely to be large-scale, expensive, ineffective and possibly counterproductive. More screening for every passenger makes no sense. When searching for needles in haystacks, adding hay doesn't help. What's needed is a larger, more robust watch list that is instantly available to all relevant government agencies. Almost 2 million people travel on planes in the United States every day. We need to isolate the tiny percentage of suspicious characters and search them, not cause needless fear in everyone else.

What Obama didn't say, but becomes clear in the [White House review](#) (PDF), is that connecting the dots is really, really hard. Out of millions of tiny pieces of information being collected by 16 different agencies, one agency wasn't able to connect three or four seemingly random ones, flag them, and conclude that they warranted action. Easier said than done.

What Is to Be Done?



What Is to Be Done?

The New York Times

January 1, 2010

OP-ED COLUMNIST

The God That Fails

By [DAVID BROOKS](#)

During the middle third of the 20th century, Americans had impressive faith in their own institutions. It was not because these institutions always worked well. The Congress and the Federal Reserve exacerbated the Great Depression. The military made horrific mistakes during World War II, which led to American planes bombing American troops and American torpedoes sinking ships with American prisoners of war.

What Is to Be Done?

But there was a realistic sense that human institutions are necessarily flawed. History is not knowable or controllable. People should be grateful for whatever assistance that government can provide and had better do what they can to be responsible for their own fates.

That mature attitude seems to have largely vanished. Now we seem to expect perfection from government and then throw temper tantrums when it is not achieved. We seem to be in the position of young adolescents – who believe mommy and daddy can take care of everything, and then grow angry and cynical when it becomes clear they can't.

After Sept. 11, we Americans indulged our faith in the god of technocracy. We expanded the country's information-gathering capacities so that the National Security Agency alone now gathers four times more data each day than is contained in the Library of Congress.

What Is to Be Done?

We set up protocols to convert that information into a form that can be processed by computers and bureaucracies. We linked agencies and created new offices. We set up a centralized focal point, the National Counterterrorism Center.

All this money and technology seems to have reduced the risk of future attack. But, of course, the system is bound to fail sometimes. Reality is unpredictable, and no amount of computer technology is going to change that. Bureaucracies are always blind because they convert the rich flow of personalities and events into crude notations that can be filed and collated. Human institutions are always going to miss crucial clues because the information in the universe is infinite and events do not conform to algorithmic regularity.

Resilient societies have a level-headed understanding of the risks inherent in this kind of warfare.

What Is to Be Done?

But, of course, this is not how the country has reacted over the past week. There have been outraged calls for Secretary Janet Napolitano of the Department of Homeland Security to resign, as if changing the leader of the bureaucracy would fix the flaws inherent in the bureaucracy. There have been demands for systemic reform — for more protocols, more layers and more review systems.

Much of the criticism has been contemptuous and hysterical. Various experts have gathered bits of Umar Farouk Abdulmutallab's biography. Since they can string the facts together to accurately predict the past, they thunder, the intelligence services should have been able to connect the dots to predict the future.

Dick Cheney argues that the error was caused by some ideological choice. Arlen Specter screams for more technology — full-body examining devices. “We thought that had been remedied,” said Senator Kit Bond, as if omniscience could be accomplished with legislation.

What Is to Be Done?

In a mature nation, President Obama could go on TV and say, “Listen, we’re doing the best we can, but some terrorists are bound to get through.” But this is apparently a country that must be spoken to in childish ways. The original line out of the White House was that the system worked. Don’t worry, little Johnny.

When that didn’t work the official line went to the other extreme. “I consider that totally unacceptable,” Obama said. I’m really mad, Johnny. But don’t worry, I’ll make it all better.

Meanwhile, the Transportation Security Administration has to be seen doing something, so it added another layer to its stage play, “Security Theater” — more baggage regulations, more in-flight restrictions.

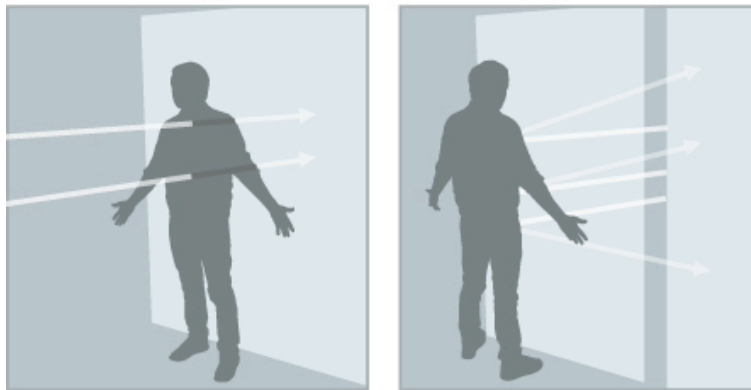
Whole Body Scanning?



Whole Body Scanning?

A Reflection on You

The technology of X-rays for whole-body scanning in airports involves tiny doses of radiation and technology to record how it bounces off the skin. Here's how it differs from medical X-rays.



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Whole Body Scanning?

Transmission X-rays, such as those used for medical imaging, measure how much radiation an object absorbs. The machine shoots a radiation beam into an object and measures what comes out the other side. Dense objects absorb more radiation, producing the shadow-like images of a medical X-ray.

TYPICAL DOSE 4 millirems



Backscatter X-rays, such as those proposed for wide use in airports, measure reflected, or scattered, radiation. The machine sends a sweeping beam across an object and records the scatter to produce detailed depictions of a body under clothes. Organic material such as skin — or explosives — give off strong signals.

TYPICAL DOSE: .005 millirem



Sources: Health Physics Society; American Science and Engineering Inc.

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THE NEW YORK TIMES

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iClicker Question

Which of the effects listed below would be lethal farthest from the center of a large (~1 Mt) ground burst, for a person in the open?

- A. Prompt nuclear radiation
- B. Electromagnetic pulse
- C. Thermal radiation
- D. Blast
- E. Residual nuclear radiation (“fallout”)

Blank

iClicker Answer

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iClicker Question

Which of the effects of a nuclear war listed below would probably kill the most people?

- A. Prompt nuclear radiation
- B. Thermal radiation
- C. Blast
- D. Indirect effects such as soot and “fallout”

Blank

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iClicker Question

Which of the following is *not* a defining characteristic of terrorism?

- A. The act must be violent or threaten violence
- B. The violence must be against civilians
- C. The individual victims must be randomly chosen
- D. The violence must be deliberate
- E. The violence must have a political purpose

Blank

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- D. The violence must be deliberate
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iClicker Question

Terrorism

Which of the following is *not* one of the “lethal triple cocktail” of factors that Richardson argues leads to terrorism?

- A. Extreme poverty
- B. A disaffected individual
- C. A legitimizing ideology
- D. An enabling community

Blank

iClicker Answer

Terrorism

Which of the following is *not* one of the “lethal triple cocktail” of factors that Richardson argues leads to terrorism?

- A. **Extreme poverty**
- B. A disaffected individual
- C. A legitimizing ideology
- D. An enabling community

Reducing the Threat of Nuclear Terrorism

Two Possible Approaches

1. Invasion and war (often leads to insurgencies)
2. Cooperative efforts to secure nuclear materials

Reducing the Threat of Nuclear Terrorism

Invasion and War

Case Studies: Iraq and Afghanistan

Categories of Violent Political Activity (Review)

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Countering Insurgencies

The 'Thompson Principles' for countering insurgencies —

Principle 1: The political is primary

Principle 2: Coordinate the government machinery

Principle 3: Obtain adequate intelligence

Principle 4: Separate the insurgent from his base of support

Principle 5: Neutralize the insurgent

Principle 6: Plan early for what happens when the insurgency ends

Countering the Insurgency in Iraq

The new approach adopted by United States forces in Iraq in January 2007 has come to be called the “Surge”.

Despite its name, *this new approach did not involve a large increase in the number of troops in Iraq.*

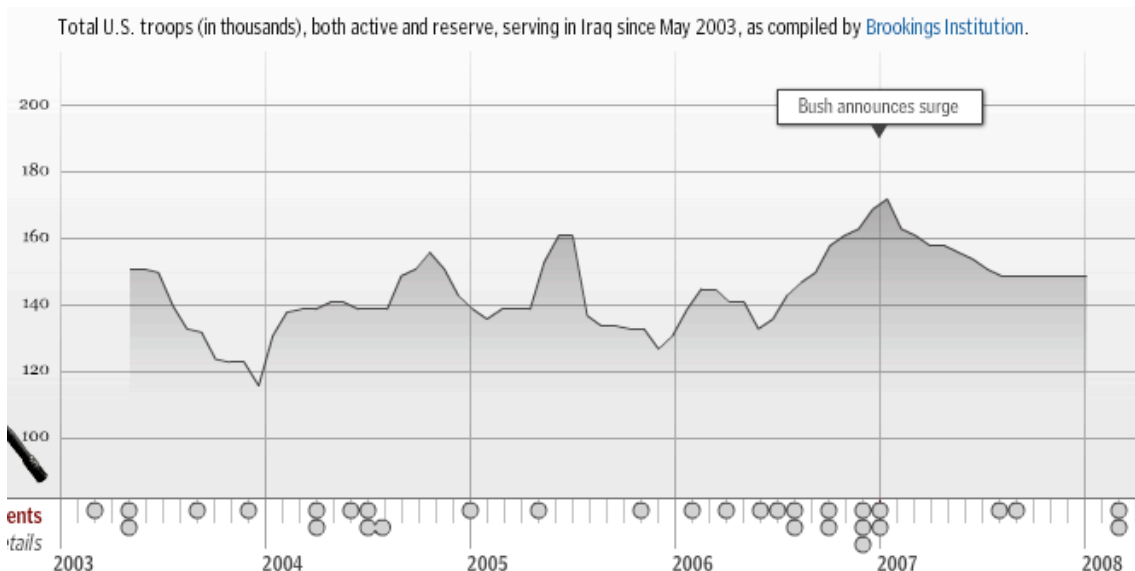
It did delay troop withdrawals, but *it was primarily a change in tactics.*

The “new” tactics were counterinsurgency tactics that are well known and were painfully learned by the United States in Vietnam but then forgotten.

They were *a tactical success*, because they reduced (at least temporarily) the level of daily violence, but they were *a strategic failure*, because they did not achieve the goal of changing the political situation in Iraq.

Countering the Insurgency in Iraq

The “Surge” in Iraq was not primarily an increase in U.S. troop levels:



Countering the Insurgency in Iraq

The “Surge” in Iraq was primarily a change in tactics:

Ricks: “The surge was more about how to use troops than it was about the number of them.”

The new tactics made protecting the civilian population the primary objective.

The phrase used to describe this new tactic was “clear, hold, build”.

This was a new tactic for the United States in Iraq, but a very old tactic in the history of efforts to counter insurgencies.

Countering the Insurgency in Iraq

How many troops/security personnel are required to quell an insurgency?

A rule-of-thumb based on decades of historical experience (see NATO’s effort to secure the Balkans and the current U.S. Army Field Manual):

20,000 security personnel are required for every 1 million inhabitants

*This would be 500,000 personnel in Iraq.
(150,000 U.S. troops were in Iraq in 2007.)*

How did U.S. forces manage with such a small troop level?

- *By paying Iraqi (largely Sunni) insurgents to suppress foreign Al Qaeda elements and take control of violent areas*
- *By training Iraqi troops and police to help secure violent areas*

Countering the Insurgency in Iraq

The “Surge” in Iraq was a **tactical success** but a **strategic failure**.

It was a tactical success because it has (temporarily) reduced the level of violence.

But it was meant to do more than that. It was supposed to create a breathing space in which Iraqi political leaders could move forward. As General Odierno has said, some Iraqis used the elbow room to move backward.

Ricks (January 2009): “The bottom line is that none of the basic problems facing Iraq have been addressed—the relationship between Shia, Sunni, and Kurds, or who leads the Shias, or the status of the disputed city of Kirkuk, or the sharing of oil revenue.”

Countering the Insurgency in Iraq

February 26, 2011

Bombing Damages Iraq’s Largest Oil Refinery

By **JACK HEALY**

BAGHDAD — Iraq’s largest oil refinery, in Baiji, was crippled by a predawn attack on Saturday in which gunmen stormed the vast complex, killed one engineer and set off several bombs.

The attack shut down parts of the Baiji Refinery, halting the production of about 150,000 barrels per day of petroleum products and threatening to interrupt supplies of heating oil, gasoline and oil for generators for millions of people in northern Iraq.

Oil Ministry officials were just beginning to investigate the extent of the damage on Saturday, and the acting manager of the refinery said he feared it would take months to repair the pipelines, cables, furnaces and other equipment damaged by the explosions and fires. The refinery is about 100 miles north of Baghdad.

Countering the Insurgency in Iraq

February 21, 2011

Suicide Bomber Strikes Iraq Police Station

By **MICHAEL S. SCHMIDT** and **OMAR AL-JAWOSHY**

BAGHDAD — A suicide bomber on Monday detonated a truck packed with explosives outside a police headquarters just north of Samarra, killing 12 officers and wounding 20 others, a local official and a law enforcement official said.

The attack demonstrated that the police and security forces remain a target of insurgents despite the significant drop in violence across Iraq in the past year, and highlighted the tenuous security situation in and around Samarra, a predominantly Sunni city 60 miles north of Baghdad that is home to a Shiite shrine.

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Countering the Insurgency in Iraq

February 25, 2011

Hundreds of Thousands Protest Across Mideast

By **SHARON OTTERMAN** and **J. DAVID GOODMAN**

Protests in Iraq also took a violent turn, with security forces firing on crowds in Baghdad, Mosul, Ramadi and in Salahuddin Province, killing at least ten people. Unlike in other Middle Eastern countries, the protesters in Iraq are not seeking to topple their leaders, but are demanding better government services after years of war and deprivation.

Religious leaders and the prime minister had pleaded with people not to take to the streets, with **Moktada al-Sadr** saying the new government needed a chance to improve services and Prime Minister **Nuri Kamal al-Maliki** warning that insurgents could target the gatherings. But on Friday, the deaths came at the hands of government forces.

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The Future of Iraq

January 2009 Interview with Thomas Ricks (author of *The Gamble*, a book about the “Surge”)

“Many Americans seem to think that the Iraq war is close to wrapped up, or at least our part in it. When I hear that, I worry. We will likely have to keep substantial forces in Iraq for possibly decades to come.”

“There probably will be very little support for the tough position in which President Obama will find himself. That is, as the situation deteriorates in Iraq, Republicans will smack him, claiming (wrongly) that everything was going well when Bush's presidency ended. Meanwhile, a lot of Obama's supporters still (wrongly) expect him simply to get the U.S. out of Iraq. That isn't going to happen either.”

“The events for which the Iraq war will be remembered by us and by the world have not yet happened.”

Why the Current U.S. Effort in Afghanistan is Unlikely to Succeed

The U.S. Intelligence Community estimates that there are currently only ~ 100 Al Qaeda terrorists in Afghanistan.

How many troops/security personnel would be required to quell the Taliban in Afghanistan using a counterinsurgency approach?

According to the U.S Army Field Manual and historical experience, 600,000 troops would be required.

This is not feasible. Only 37,000 NATO troops were in Afghanistan in mid-2009. Only about 90,000 NATO troops and about 120,000 very poorly trained Afghan troops are there today, leaving most of the country unprotected.

Why the Current U.S. Effort in Afghanistan is Unlikely to Succeed

THE WRONG WAR

Grit, Strategy, and the Way Out of Afghanistan

By Bing West

So what's wrong? Why hasn't the new faith in Afghanistan delivered the success it promises? In his remarkable book, "The Wrong War," Bing West goes a long way to answering that question. "The Wrong War" amounts to a crushing and seemingly irrefutable critique of the American plan in Afghanistan. It should be read by anyone who wants to understand why the war there is so hard.

Why the Current U.S. Effort in Afghanistan is Unlikely to Succeed

But the legwork pays off. West shows in the most granular, detailed way how and why America's counterinsurgency in Afghanistan is failing. And, in the places where the effort is showing promise, he demonstrates why we don't have the resources to duplicate that success on a wider scale. Mind you, West is no antiwar lefty: he's a former infantry officer who fought in Vietnam. An assistant secretary of defense in the Reagan administration, he admires — nay, adores — America's fighting men and women, and he wants the United States to succeed. But the facts on the ground, it appears, lead him to darker truths.

Why the Current U.S. Effort in Afghanistan is Unlikely to Succeed

1. Most Afghans view U.S. and NATO personnel as foreign infidel invaders and occupiers, with an alien culture and religion. They hate us, and they want us out of their country. Many do not like the Taliban, but the Taliban are Muslim countrymen.
2. The U.S. and NATO have been waging war in Afghanistan for more than 9 years without success. Their citizens are war-weary and fed-up with continual failures.
3. Until last year, U.S. and NATO troops did not use counterinsurgency tactics in Afghanistan. Instead they waged a conventional war, killing many civilians, causing Afghans to hate them more, and helping the Taliban recruit new fighters.
4. Afghanistan is not a unified country but a collection of families and tribes governed by warlords. It is very poor, with almost no infrastructure and little agriculture.
5. The presence of U.S. and NATO forces has led to almost total dependency.
6. The central government is one of the most corrupt and ineffective in the world. It is heavily involved in the drug trade and widely hated. It barely controls even the capital Kabul.

Why the Current U.S. Effort in Afghanistan is Unlikely to Succeed

February 25, 2011

Warning Against Wars Like Iraq and Afghanistan

By **THOM SHANKER**

WEST POINT, N.Y. — Defense Secretary Robert M. Gates bluntly told an audience of West Point cadets on Friday that it would be unwise for the United States to ever fight another war like Iraq or Afghanistan, and that the chances of carrying out a change of government in that fashion again were slim.

“In my opinion, any future defense secretary who advises the president to again send a big American land army into Asia or into the Middle East or Africa should ‘have his head examined,’ as General MacArthur so delicately put it,” Mr. Gates told an assembly of Army cadets here.

What Should We Do in Afghanistan?

**A different definition of success—and a different approach
—are required.**

Many experts recommend that we focus on countering terrorism,
rather than on counterinsurgency and nation-building.

The goal would be to prevent terrorists from setting up safe havens in
Afghanistan by harassing and attacking them.

Physics/Global Studies 280

Reducing the Threat of Nuclear Terrorism

Delivery Methods Other Than Long-Range Ballistic Missiles Pose Greater Threats

Several countries are capable of developing mechanisms to launch SRBMs, MRBMs, or land-attack cruise missiles from forward-based ships or other platforms. Some may develop such systems before 2015.

U.S. territory is more likely to be attacked with [nuclear weapons] using non-missile delivery means—most likely from terrorists—than by missiles, primarily because non-missile delivery means are —

- less costly
- easier to acquire
- more reliable and accurate

They also can be used without attribution.

— *Unclassified summaries of the most recent National Intelligence Estimates of Foreign Missile Developments and the Ballistic Missile Threat Through 2015*

Nuclear Threats to the United States



Reducing the Threat of Nuclear Terrorism

Topics covered here and in the readings —

- Who could be planning a nuclear terrorist attack?
- What nuclear weapons could terrorists use?
- Where could terrorists acquire a nuclear bomb?
- When could terrorists launch a nuclear attack?
- How could terrorists deliver a nuclear bomb?
- Where we need to be: a world of “three no’s”
- How to get there: a road map of “seven yeses”

Where We Need to Be (Important)

The centerpiece of a strategy to prevent nuclear terrorism must be to deny terrorists access to nuclear weapons or materials

To accomplish this, Allison argues we must shape a new national security order with a doctrine of “Three No’s” —

1. No loose nukes
2. No new nascent nukes
3. No new nuclear weapon states

Where We Need to Be

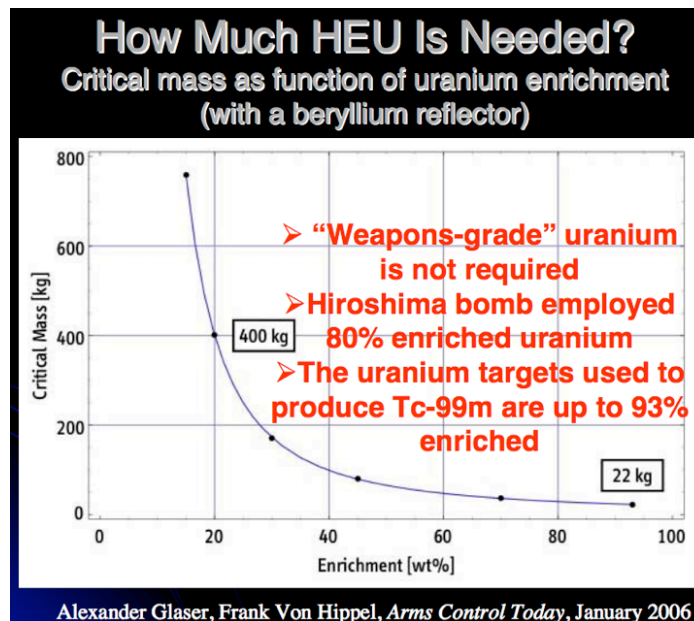
1. No Loose Nukes

Insecure nuclear weapons or materials anywhere pose a grave threat to all nations everywhere.

The international community can therefore 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 has been the principal focus of concern for the past decade, but other countries—such as Pakistan—are also of concern.

The Danger of Highly Enriched Uranium



Worldwide Highly Enriched Uranium

Where is There HEU Today?



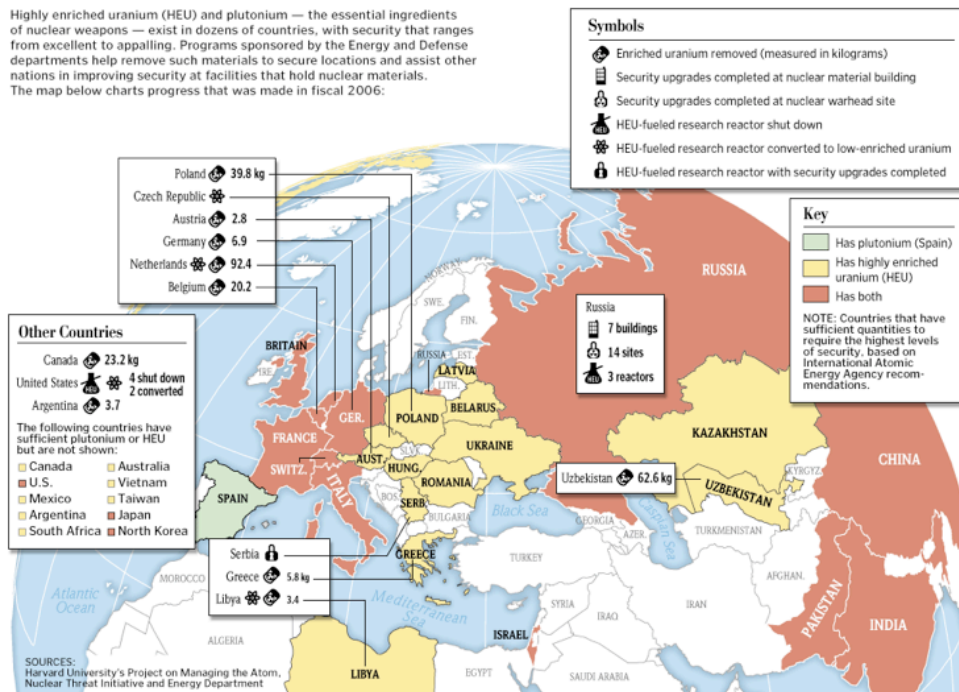
➤ There are about 50 metric tons of HEU in civilian facilities worldwide

➤ Security levels are generally lower than at military facilities

<http://www.nti.org/db/heu/map.html>

Worldwide Highly Enriched Uranium (Details)

Highly enriched uranium (HEU) and plutonium — the essential ingredients of nuclear weapons — exist in dozens of countries, with security that ranges from excellent to appalling. Programs sponsored by the Energy and Defense departments help remove such materials to secure locations and assist other nations in improving security at facilities that hold nuclear materials. The map below charts progress that was made in fiscal 2006:



Worldwide Highly Enriched Uranium (Details)

1. No Loose Nukes

QUANTITY OF CIVILIAN HEU (IN KILOGRAMS)	COUNTRIES
More than 10,000 kg	United States: 176,000 kg (including military-origin HEU), of which 123,000 is slated to be blended down to LEU and 23,000 is irradiated ²
	Russia: 15,000-30,000 kg (not including excess military HEU) ³
	Kazakhstan: 10,590-10,940 kg, all but about 20 kg of which is irradiated
1,000 - 10,000 kg	France: 6,392 kg, 1,577 kg of which is irradiated ⁴
	Japan: about 2,000 kg
	United Kingdom: 1,437 kg, of which 142 kg is irradiated ⁵
	Canada: about 1,350 kg
	China: about 1,000 kg

Worldwide Highly Enriched Uranium (Details)

100-1,000 kg	Germany: about 890, of which approx. 720 kg is irradiated ⁶
	Netherlands: 730-810 kg
	Belgium: 700-750 kg ⁷
	South Africa: 610-760 kg
	Poland: 441 kg
	Belarus: 170-370 (at least 40 kg of which is 90% enriched)
	Ukraine: 160-250 kg
	Italy: 100-200 kg (most, if not all, is irradiated fuel) ⁸
10-100 kg	Australia: 76 kg ⁹
	Uzbekistan: less than 56 kg (all of which is irradiated fuel)
	DPRK: 42 kg
	Hungary: 0-95.5 kg
	Israel: 34 kg
	Pakistan: 17 kg
	Serbia: 13 kg (all of which is irradiated fuel)
	Mexico: 12 kg
Czech Republic: 0-40 kg (all of which is irradiated fuel)	

Worldwide Highly Enriched Uranium (Details)

1-10 kg	Austria: 5-20 kg (70% enriched fuel rods in TRIGA-2 reactor)
	Argentina: 8 kg ¹⁰
	Switzerland: 5-10 kg
	Turkey: 8 kg
	Romania: 0-5 kg
	Iran: 7 kg
	Chile: 5 kg
	Libya: 5 kg
	Taiwan: 3-10 kg
	Syria: 1 kg*
	Nigeria: 1 kg*
	Jamaica: 1 kg ¹¹
	Ghana: 1 kg*
India: 0-10 kg	
Cleared of HEU (less than 1 kg)	Brazil, Bulgaria, Colombia, Denmark, Georgia, Greece, Indonesia, Iraq, Latvia, Norway, Portugal, Philippines, Slovenia, S. Korea, Spain, Sweden, Thailand, Vietnam.

Where We Need to Be

2. No New Nascent Nukes

Construction of any national production facilities for enriching uranium or reprocessing plutonium must be prevented.

The head of the IAEA, Mohamed ElBaradei, has stated that the existing system under the NPT erred in allowing non-nuclear states to build uranium enrichment and plutonium production plants.

Closing this loophole will require deft diplomacy, imaginative inducements, and demonstrable readiness to employ sanctions to establish a bright line.

Where We Need to Be

3. No New Nuclear Weapons States

This means drawing a line under the current eight nuclear powers (the United States, Russia, Great Britain, France, China, India, Pakistan, and Israel) and unambiguously declaring “no more”.

North Korea poses a decisive challenge to this policy. But if North Korea is accepted as a nuclear weapons state, South Korea and Japan are likely to follow within a decade, making Northeast Asia a far more dangerous place than it is today

The spread of nuclear weapons states makes it more likely that nuclear weapons or materials will be sold to others, including terrorists, or stolen by them.

How to Get There

The centerpiece of our strategy must be to deny terrorists access to nuclear weapons or materials.

To *prevent nuclear terrorism*, Allison argues a group of related actions, which he summarizes under the rubric of “Seven Yeses” —

1. Making the prevention of nuclear terrorism an absolute national priority
2. Carrying out a strategically focused counter-terrorism effort
3. Conducting a humble foreign policy
4. Building a global alliance against nuclear terrorism
5. Creating the intelligence capabilities required for success in countering nuclear terrorism
6. Dealing with dirty bombs
7. Constructing a multi-layered defense

Physics 280: Session 14

Plan for This Session

Module 4: Nuclear Terrorism (cont'd)

“Last Best Chance” (docudrama)

Discussion of video

Physics 280: Session 15

“Last Best Chance”

Reducing the Threat of Nuclear Terrorism

Topics covered in this video —

- Who could be planning a nuclear terrorist attack?
- What nuclear weapons could terrorists use?
- Where could terrorists acquire a nuclear bomb?
- When could terrorists launch a nuclear attack?
- How could terrorists deliver a nuclear bomb?

Reducing the Threat of Nuclear Terrorism

Securing Vulnerable Nuclear Materials

Physics 280: Session 15

Status of the U.S. Nuclear Security Program

Arms Control Today, January/February 2011

The GAO reported that the National Security Council (NSC) has approved a document that serves as a government-wide strategy for achieving President Barack Obama's goal of securing all vulnerable nuclear materials within four years. That document lays out the main actions that the U.S. government will take toward this end and defines the role of each agency involved in the effort, according to the GAO. However, the GAO said that "this interagency strategy lacks specific details concerning how the initiative will be implemented."

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Russia

The NNSA received the highest marks for its Material Protection, Control, and Accounting (MPC&A) activities in Russia. Through this program, which works to conduct security upgrades at nuclear facilities, the NNSA has improved security at 110 Russian nuclear warhead and material sites, the GAO said. However, the GAO noted that the MPC&A program is due to expire on Jan. 1, 2013, and transfer full responsibility for its activities to Russia. The report argued that the NNSA would be unlikely to meet this deadline and recommended that the NNSA and Congress take steps to prepare for extending the program past 2012.

Physics 280: Session 15

Other NNSA programs in Russia have achieved more limited success, the GAO said. The Materials Consolidation and Conversion (MCC) program was created in 1999 with the goal of moving highly enriched uranium (HEU) from 50 buildings and five sites by 2010; it “has achieved removal of all HEU from only 1 site and 25 buildings,” the report said.

Likewise, the Global Threat Reduction Initiative (GTRI), which includes an effort to convert or shut down Russian HEU reactors, has made little progress toward that end, the GAO said. According to the report, the GTRI plans to convert or shut down 71 HEU-fueled research reactors and related facilities in Russia by 2020. To date, Russia has shut down three HEU facilities and committed to shutting down five others, the GAO said.

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Ukraine

The GAO report cites several notable successes in GTRI efforts to remove weapons-usable material from nearly two dozen countries. Following Ukraine’s commitment at the April 2010 nuclear security summit in Washington to get rid of all of its HEU by 2012, in May the GTRI facilitated the removal of “more than a third of Ukraine’s HEU inventory” to Russia, according to the report.

South Africa

The report notes the NNSA’s completion of a contract with South Africa for the return of U.S.-origin spent HEU fuel to the United States. According to LaVera, the contract, signed in August 2010, covers 5.8 kilograms of U.S.-origin HEU spent fuel. The material is scheduled to be returned to the United States in the first half of 2011, he said. That will mark the removal of all U.S.-origin HEU spent fuel from South Africa, he said.

Physics 280: Session 15

Belarus

Belarus has committed to give up its stockpile of highly enriched uranium (HEU) by 2012, U.S. Secretary of State Hillary Rodham Clinton and Belarusian Foreign Minister Sergei Martynov said Dec. 1 in a joint statement.

Prior to the agreement, Belarus, Russia, the United States, and the International Atomic Energy Agency conducted two secret operations in which portions of Belarusian HEU were moved into secure facilities in Russia. In these operations, conducted Oct. 22 and Nov. 28, a total of 85 kilograms of HEU were transported, National Nuclear Security Administration (NNSA) spokesman Damien LaVera said in a Dec. 2 e-mail. One shipment of 41 kilograms was slightly irradiated; the other consisted of fresh HEU fuel, LaVera said.

Physics 280: Session 15

Current Status of Funding

President Obama requested more than \$2 billion for international programs to secure weapons grade materials in the fiscal year that began October 1. A critical piece of that request was for a \$320 million increase to enable the National Nuclear Security Administration and Department of Defense to secure and eliminate nuclear materials around the world. This funding is the foundation of the cooperative international effort to secure all vulnerable nuclear materials and to keep our nation safe from the threat of nuclear terrorism.

On February 11th, the House Appropriations Committee recommended a cut of \$602 million (22%) of the funding for non-proliferation programs. This cut to zero the \$320 million needed for the cooperative international effort to secure vulnerable nuclear materials to keep them out of the hands of terrorists. This week the Senate is considering whether to go along with this cut.

End of Nuclear Terrorism Module