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The Nuclear Security Summit Dossier

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Briefing on the Seoul Nuclear Security Summit
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www.nuclearsummit.org
www.managingtheatom.org

Why a nuclear security summit? Nuclear terrorism remains a real danger

- Some terrorists are seeking nuclear weapons and materials – and could plausibly make a crude nuclear bomb if they got the needed nuclear material
- Some terrorists have considered sabotage of nuclear facilities
- Some terrorists have worked to disperse radioactive material in a "dirty bomb"
- Summit brings top-level attention to securing nuclear and radioactive material – only high-level int'l forum on this topic

Source: Block/AP

Nagasaki 1945 – could terrorists do this to a modern city?

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Source: Time-Life

Nuclear terrorism anywhere would be a global catastrophe

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- Not just a risk to the United States
- Economic, political, military consequences would reverberate worldwide
  - Likely shut-down of much of world trade, for a period

"Were such an attack to occur, it would not only cause widespread death and destruction, but would stagger the world economy and thrust tens of millions of people into dire poverty…. [A]ny nuclear terrorist attack would have a second death toll throughout the developing world."

– Kofi Annan, "A Global Strategy for Fighting Terrorism," March 10, 2005

- Political consequences would doom prospects for large-scale nuclear growth, putting nuclear industry at risk

  Insecure nuclear material anywhere is a threat to everyone, everywhere – all states have an interest in nuclear security

Fukushima 2011 – could terrorists do this to a nuclear power plant?

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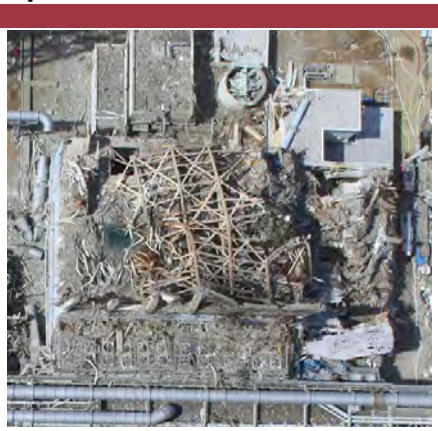
- Fukushima tragedy was caused by natural events – but terrorists might cause similar effects
  - Redundant safety systems may all fail if terrorists intentionally destroy them
  - Odds of next major radioactive disaster coming purely by accident may be lower than odds of it happening from hostile action
  - Al Qaeda and North Caucasus terrorists have both considered sabotage of nuclear plants
  - Key safety-security nexus



Source: Air Photo Service, Japan

Nuclear safety and security are closely linked – you can't be safe without being secure.

Nuclear security is the foundation for the three pillars of the NPT

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- Nuclear security is the foundation of nonproliferation
  - Because insecure nuclear material could allow terrorists or proliferating states to get the material to make a nuclear bomb
- Nuclear security is the foundation for peaceful use
  - Because nuclear energy will not gain the government, public, and investor support it needs for large-scale growth unless people are confident that it is safe and secure
- Nuclear security is the foundation for disarmament
  - Because nuclear weapon states will not give up their nuclear weapons if insecure nuclear material could lead terrorists or hostile states to get nuclear weapons

The Seoul Nuclear Security Summit is not about Iran, or North Korea, or Fukushima, or nuclear arms reductions – but it is related to coping with all of these challenges

What is the evidence that current nuclear security is inadequate?

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- Continuing seizures of weapons-usable material
  - ~20 real cases involving HEU or plutonium since 1992
- "Red team" tests indicate security systems can be defeated by intelligent adversaries looking for weak points
  - Repeated cases in U.S. tests – though U.S. has more stringent security requirements than virtually any other country
  - Most other countries do not carry out such tests
- Successful thefts and attacks at well-secured non-nuclear facilities – demonstrating adversary capabilities
  - Repeated cases of use of insiders, covert outsider attacks, unusual tactics, succeeding in stealing from/attacking heavily guarded sites (e.g., banks, military bases, diamond centers…)
  - Existing nuclear security measures in many countries demonstrably insufficient to protect against such adversary capabilities

Not just a U.S. view

- First ever U.S.-Russian joint threat assessment
- Concludes the danger is real, urgent action is needed to reduce it
- Endorsed by broad range of retired military, intelligence experts

http://belfercenter.ksg.harvard.edu/publication/21087/

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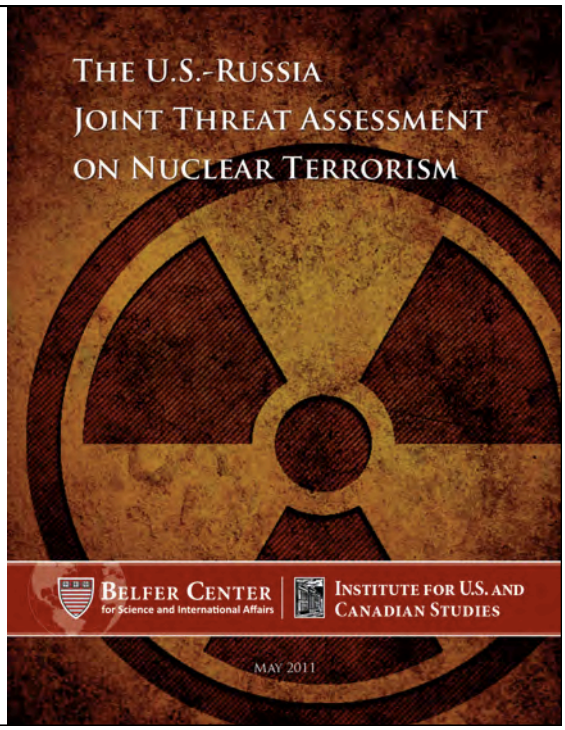

International assessments of the danger of nuclear terrorism

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"Nuclear terrorism is one of the most serious threats of our time. Even one such attack could inflict mass casualties and create immense suffering and unwanted change in the world forever. This prospect should compel all of us to act to prevent such a catastrophe."

— U.N. Secretary-General Ban-Ki Moon, 13 June 2007

"The gravest threat faced by the world is of an extremist group getting hold of nuclear weapons or materials."

— then-IAEA Director-General Mohammed ElBaradei, 14 September 2009

"We have firm knowledge, which is based on evidence and facts, of steady interest and tasks assigned to terrorists to acquire in any form what is called nuclear weapons, nuclear components."

— Anatoly Safonov, counter-terrorism representative of the Russian president, former head of the FSB, 27 September 2007

What effect will bin Laden's death have?

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- Could reduce the risk:
  - Likely some disruption as top leadership sorts itself out
  - Loss of charismatic leader will likely make recruitment of nuclear-related personnel, raising large sums of cash, more difficult
  - *If* coalition also eliminates Zawahiri, risk reduction could be larger – much of the nuclear drive appears to have come from these two
- *But,* risk will remain significant:
  - Al Qaeda's "nuclear CEO," other key participants in nuclear effort still at large
  - Other groups have pursued nuclear weapons as well – with 2-3 groups having gone the nuclear path in last 15 years, cannot expect they will be the last
  - The problem of nuclear terrorism and the need for nuclear security will be with us for decades – no room for complacency

The nuclear security summit dossier

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- Briefing on the nuclear terrorism threat
- Detailed paper on next steps to consolidate nuclear weapons and weapons-usable material at fewer locations
- Report card on progress, how to assess the summit
- Fact sheet on nuclear terrorism
- Q&A on nuclear security and nuclear terrorism
- 20 questions for journalists
- Clues from Soviet collapse
- Links to a wealth of related background material
- www.nuclearsummit.org

More material will be added as the nuclear security summit nears

Progress in the four-year effort to secure nuclear materials

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- Security upgrades in, e.g., Russia, Pakistan, South Africa
  - But dramatically increasing extremist threat and growing nuclear stockpile in Pakistan – overall risk appears to be worsening
- Eliminating stockpiles
  - Ukraine agreed to eliminate all its HEU by the time of Seoul summit
  - 20 countries have eliminated all the weapons-usable material on their soil, six since President Obama called for a four-year effort to secure nuclear material – two more may soon join the group
  - Many research reactors converting from HEU to LEU
- Strengthening the regime
  - Revision of IAEA physical protection recommendations (INFCIRC/225)
  - More ratifications of 2005 amendment to physical protection convention, nuclear terrorism convention – but physical protection convention amendment still a long way from entering into force

Progress in the four-year effort to secure nuclear materials (II)

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- Improving practices on the ground
  - IAEA, World Institute for Nuclear Security developing best practice guides, some countries and sites sharing best practices directly
  - IAEA, WINS guides on strengthening security culture, some operators have established programs to assess and improve. Former DOE "security czar" Eugene Habiger: "good security is 20% equipment and 80% culture."
  - Training centers/centers of excellence: many countries establishing new nuclear security training programs
- *But,* needed nuclear security improvements, reactor conversions, removals of nuclear material will *not* all be completed during the four-year effort
  - Need to accomplish as much as possible in four-year effort – *and* pivot toward sustaining the momentum for the long haul
  - Like nuclear safety, nuclear security will require continual improvement as long as nuclear weapons and weapons-usable materials exist

Consolidation: A key element of the nuclear security agenda

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- Each site or transport with nuclear weapons, HEU, or plutonium represents and additional risk
  - Nuclear security never 100% effective
  - Can achieve more security at less cost with fewer sites
- Significant progress underway
  - 20 countries have eliminated all weapons-usable material
  - ~180 HEU-fueled research reactors have closed or converted to LEU that cannot be used in a bomb
  - Major consolidation of U.S. weapons-usable nuclear material in progress
- But much more to be done
  - Need to cover broader range of materials, facilities
  - Need to include broader set of policy tools, incentives
  - All countries should examine benefits, costs, and risks of each site with nuclear weapons, HEU, or plutonium – see if it can be consolidated

Expectations for the Seoul summit

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- Broad consensus statement
  - Single document integrating previous communiqué and work plan
  - Reaffirmation of commitments from Washington summit
  - New areas include safety-security interface (after Fukushima), radiological source security
  - Few new pledges
- Some review of progress
  - Some countries (not all) will issue statements on what they have accomplished – no agreed, centralized assessment
- Individual country commitments (likely most important)
  - Additional countries agreeing to eliminate HEU?
  - Countries agreeing to eliminate small plutonium stocks?
  - Additional countries agreeing to host IAEA security reviews?
  - More?

Beyond Seoul – strengthening nuclear security for the long haul

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- Goal: get many countries to commit to implement high standards of nuclear security and accounting
  - Protect against all plausible terrorist and criminal threats
  - Effective regulation, inspection, performance testing
  - Steps to strengthen security culture, implement best practices
  - Resources to sustain effective security
- Goal: get many countries to consolidate or eliminate key nuclear weapons, HEU, and plutonium stocks
  - Examples: Unneeded HEU in Belarus; also in South Africa; >20 HEU critical assemblies, >20 HEU pulse reactors in Russia…
  - Phase out civilian use of HEU
  - Commit to assess every site with HEU, plutonium, or warheads to see if it is still needed – whether benefits justify costs, risks

Beyond Seoul – strengthening nuclear security for the long haul (II)

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- Goal: continue high-level engagement on nuclear security after summit process ends
  - Leaders may decide that 2014 will be the last nuclear security summit
  - Should seek agreement by 2014 on a process to continue discussion, cooperation thereafter
  - One option: ministerial-level meetings after summit process ends
  - Continued high-level engagement needed to drive momentum
- Goal: new nuclear security transparency
  - No current mechanism for building confidence that states are fulfilling their nuclear security responsibilities
  - States should request IAEA reviews of security for HEU, plutonium, high-consequence facilities
  - States could commit to voluntarily report on nuclear safety practices, invite discussion – on model of nuclear safety convention
  - Options exist that would not provide useful information to terrorists

Beyond Seoul – strengthening nuclear security for the long haul (III)

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- Goal: strengthened global governance of nuclear security
  - Existing agreements contain no specific standards; no verification or transparency; no means to assess and discuss each country's progress
  - Given national concerns, secrecy, best approaches may be political-level commitments in groupings of willing states, rather than new treaties
- Goal: broad new steps to interdict nuclear smuggling, find and stop terrorist nuclear plots
  - Each key potential source or transit country should commit to establish a team of its national police or intelligence agencies trained and equipped to deal with nuclear smuggling
  - Countries should commit to establish in-depth police and intelligence cooperation and information sharing
  - Smuggling and terrorist networks are flexible and global – response must be as well

The challenge

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- Lugar Doctrine: war on terrorism will not be won until every nuclear bomb and cache of bomb material everywhere in the world is secure and accounted for to stringent and demonstrable standards

On the day after a nuclear terrorist attack, what would we wish we had done to prevent it?

Why aren't we doing it now?

For further reading…

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- Nuclear security summit dossier
  - http://www.nuclearsummit.org
- Full text of Managing the Atom publications at:
  - http://www.managingtheatom.org
- *Securing the Bomb 2010:*
  - http://www.nti.org/securingthebomb
- *For regular e-mail updates from Managing the Atom, write to* atom@harvard.edu

Backup slides if needed…

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Challenges for the Seoul nuclear security summit

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#1: Complacency
- Many states still do not believe nuclear terrorism is a top priority threat, believe the nuclear security measures they already have in place are good enough

#2: Well-ploughed ground
- First nuclear security summit already included many of the key points where agreement could be reached
- What major steps can now be agreed that couldn't in 2010?

#3: Expanding agenda
- How to handle North Korea? Fukushima? Security against sabotage? Security of radiological sources?

#4: Sovereignty and secrecy
- States want to take their own approaches to nuclear security, many oppose transparency and review

#5: Consensus process

The Seoul nuclear security summit – coping with North Korea

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- A nuclear summit in South Korea will have to address the North Korean issue in some way
  - Should not distract from main nuclear security focus
  - May be side meetings that address the issue
- North Korea is a small part of the nuclear terrorism problem
  - Providing greatest power regime has ever acquired to uncontrollable terrorist group would risk retaliation that could threaten regime
  - Regime collapse could create "loose nukes" scenario
  - Might a military officer sell part of growing stock to provide for himself and his family?
- Need clear plans for various potential N. Korean actions
  - Contingency plans to cover a range of possible events during summit

What should the mission be?

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- Achieve effective and lasting security for all nuclear weapons and stocks of plutonium and HEU worldwide within four years – while consolidating to the minimum number of locations
  - Effective = provides high-confidence protection against demonstrated terrorist and criminal capabilities
    - Not only installed systems but effective security culture
  - Lasting = countries can and will sustain effective security with their own resources (and have effectively enforced regulations in place that require the necessary measures to be maintained)
  - All = not just in Russia and the former Soviet Union, not just in developing countries, but in all countries – global problem, and wealthy developed countries also an issue
  - Consolidating = reducing number of weapons and materials sites wherever possible, especially removing material from the most vulnerable, difficult-to-defend sites (such as civilian research reactors)

What would nuclear security success look like?

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- Number of sites with nuclear weapons, HEU, or separated plutonium greatly reduced
- All countries with HEU, plutonium, or major nuclear facilities put in place *at least* a "baseline" level of nuclear security
  - Protection against a well-placed insider, a modest group of well-trained and well-armed outsiders (able to operate as more than one team), or both outsiders and an insider together
  - Countries facing higher adversary threats put higher levels of security in place
- Strong security cultures in place, focused on continual improvement, search for sustainable excellence
- Measures in place to confirm strong security performance
  - Effective regulation, inspection, enforcement
  - Regular, realistic performance tests – including "red teams"
  - Independent, international review – becoming the norm

Essential elements of an "appropriate effective" physical protection system

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- A *design basis threat* reflecting all plausible threats
- Effective *regulation* requiring all facilities with potential bomb material or posing a catastrophic sabotage risk to have security capable of defeating the DBT
  - Backed up by inspections, and enforcement
  - Ideally including *realistic tests* of the system's ability to defeat outsider and insider threats
  - Effective *control and accounting* of nuclear material
- A strong *security culture*, to ensure that all relevant staff understand the threat and the importance of security
- *Police and intelligence* efforts focused on ensuring that nuclear conspiracies will be detected
- *Regular review and adaptation* to ensure the system adapts to changing threats and opportunities

What can be done in the four-year effort – and beyond

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- By end of 2013 (ambitious targets)
  - Drastically reduce number of countries with weapons-usable nuclear material on their soil
    - ~50% reduction may be possible
  - Reduce number of locations where weapons-usable nuclear material exists (~20-30% reduction may be possible)
  - Ensure all HEU and Pu worldwide has at least a "baseline" level of protection – e.g., secure against modest group of well-armed, well-trained outsiders (>1 team), and/or one well-placed insider
  - Ensure beyond-baseline security in a few countries with especially large threats (e.g., Pakistan)
  - Get countries to launch programs to strengthen security culture
- After end of 2013:
  - Forge common understanding on effective global nuclear security standards (e.g., as interpretation of UNSC 1540 obligation)
  - Phase-out of civilian HEU, end accumulation of separated Pu

Seizing the opportunities from the Washington nuclear security summit

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- Summit raised the issue to presidents and prime ministers in an unprecedented way
  - Major contribution to building the sense of urgency and commitment around the world
  - Agreement on securing all vulnerable material within four years
  - Many significant commitments (e.g., Ukraine's commitment to eliminate all HEU by the end of 2012)
  - Agreement to hold another summit in 2012, regular meetings between, helps hold countries' feet to the fire
- Challenge now is moving from words to deeds
  - Need intensive diplomacy to convince countries to toughen security rules, convert research reactors, eliminate stocks where possible
  - Unfortunate funding constraint: FY2010 < FY2009, FY2011 on year-long continuing resolution (major cut from request)
  - Huge obstacles: complacency, sovereignty, secrecy, bureaucracy, politics between states…

Belief in the threat – the key to success

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- Effective and lasting nuclear security worldwide will not be achieved unless key policymakers and nuclear managers around the world come to believe nuclear terrorism is a real threat to *their* countries' security, worthy of investing their time and resources to address it
- Steps to convince states this is a real and urgent threat:
  - Intelligence-agency discussions – most states rely on their intelligence agencies to assess key security threats
  - Joint threat briefings – by their experts and our experts, together
  - Nuclear terrorism exercises and simulations
  - "Red team" tests of nuclear security effectiveness
  - Fast-paced nuclear security reviews – by teams trusted by the leadership of each country
  - Shared databases of real incidents related to nuclear security, capabilities and tactics thieves and terrorists have used, lessons learned

Why does complacency matter?

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- No one will make it a priority to invest time and resources to reduce a danger they don't believe is real
  - The key to security culture is "never forgetting to be afraid"
- Sources of complacency (a partial list):
  - "We'll never have an attack or a theft attempt here"
  - "We've been doing it this way for 30 years without a problem, why should we change?"
  - "Fixing that would cost money"
  - "I've got more urgent things to do than to deal with protecting against something that will probably never happen"
  - "I don't believe terrorists could make a bomb, or sabotage a plant in a way that would cause a major radioactive release"
  - "Terrorists don't want to attack my country anyway – this is the Americans' problem if it's a problem at all"
  - "Nuclear security in our country is already good enough"
  - "The nail that sticks up gets pounded down"

Security culture matters: Propped-open security door

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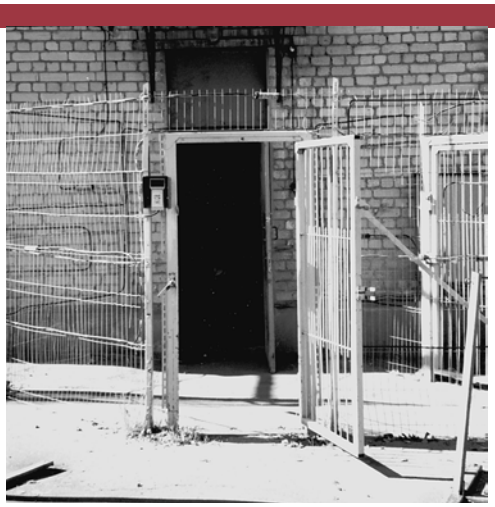

Source: GAO, Nuclear Nonproliferation: Security of Russia's Nuclear Material Improving, More Enhancements Needed *(GAO, 2001)*

Strong security culture is critical

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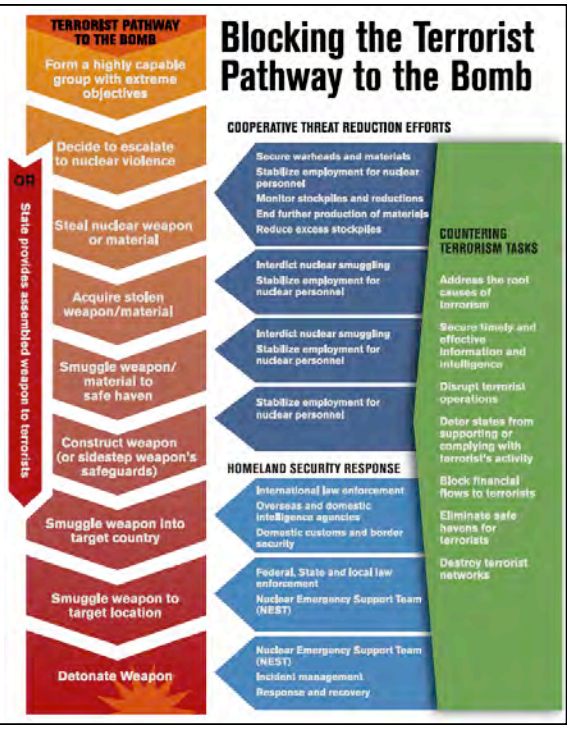
- Officials, managers, will not assign needed priority, resources to security unless they believe in the threat; staff will not take security seriously, and will cut corners on burdensome security rules, unless they believe in the threat
- All relevant staff must understand *what* the security rules are and *why* they are important
- Can build security culture with:
  - Threat briefings, videos, and other training
  - Nuclear terrorism exercises
  - Incentives for strong security performance
  - IAEA guidance in preparation
- *Probability of major radioactive release from terrorism is higher than from accidents – security requires same level of care and scrutiny as safety – major culture shift*

Blocking the terrorist pathway to the bomb



Source: Bunn, Securing the Bomb 2010: Securing All Nuclear Materials in Four Years (2010)

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Nuclear material is not hard to smuggle – plutonium box for first-ever bomb

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Source: Los Alamos

The international nuclear security framework is insufficient

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- Binding agreements
  - 1980 Physical Protection Convention and 2005 Amendment
    - Parties must have a rule on nuclear security – but what should it say?
    - 2005 Amendment not likely to enter into force for years to come
  - 2005 Nuclear Terrorism Convention
    - All parties to take "appropriate" nuclear security measures -- unspecified
  - UNSC Resolution 1540
    - All states must provide "appropriate effective" nuclear security -- unspecified
- International recommendations
  - IAEA "Nuclear Security Series," especially INFCIRC/225
    - More specific, but still quite general – should have a fence with intrusion detectors, but how hard should they be to defeat?
    - Compliance voluntary (though most countries do)
- Technical cooperation and funding
  - Nunn-Lugar, comparable programs
  - Global Partnership

The international nuclear security framework is insufficient (II)

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- Cooperative frameworks
  - Global Initiative to Combat Nuclear Terrorism
    - 82 nations participating
    - Helps to convince countries of reality of threat
    - Sharing of experience, best practices, capacity-building
    - Modest focus on upgrading nuclear security
  - Proliferation Security Initiative
    - Unlikely to stop smuggling of suitcase-sized items
  - Nuclear Security Summit
    - 1st brought together leaders from 47 countries
    - Commitment to secure all vulnerable nuclear material in four years
- The IAEA role
  - Developing recommendations, peer reviews, assistance, data
    - All voluntary, largely limited to non-nuclear-weapon states

Many tiles in the mosaic – but is it yet a beautiful picture? No common baseline of nuclear security for all Pu and HEU

Terrorists might be able to get plutonium or HEU

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- ~20 documented cases of theft and smuggling of plutonium or HEU, some in kilogram quantities
  - Most recent seizures: Georgia 2010, Moldova 2011
- Major progress in improving nuclear security
  - Dozens of sites with major security upgrades
  - Dozens of sites all material removed
- But many weaknesses remain, in many countries
  - Protection against only modest threats
  - Lack of on-site armed guards
  - Limited insider protection

Source: Reuters, *from Georgian Interior Ministry*

Terrorists might be able to get material: the 2011 Moldovan HEU case

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- 27 June, 2011: Moldovan officials arrest 6 people for nuclear smuggling
  - 4.4 grams weapon-grade HEU seized
  - Smugglers claim to have access to 9 kilograms of HEU, willing to sell for $31 million
  - Smugglers also claim to have access to plutonium
  - Smuggling through highly corrupt breakaway region of Transnistria
  - Russian leader of group and African buyer are still at large (appears to be first case in some time with serious buyer involved)
  - Moldovan officials report that "members of the ring, who have not yet been detained, have one kilogram of uranium"
  - Little is publicly known about specific characteristics or origins of the material, capabilities of the smugglers, identity of the buyer…

Immense global stockpiles of nuclear weapons and weapons-usable materials

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- ~19,000 assembled nuclear weapons still exist
  - All but ~1,000 in U.S. and Russian stockpiles
- Global stock of separated plutonium is nearly 500 tons
- Global stock of HEU is some 1,440 tons (+/- 125 tons)
- Nuclear weapons stored at >100 sites
- Weapons-usable nuclear material in hundreds of buildings in dozens of countries around the world

W-48 nuclear artillery shell, one of many thousands of tactical nuclear weapons that have been dismantled

Source: U.S. Department of Energy

Theft of 0.01% of world stockpile could cause a global catastrophe

Widely distributed global stockpiles

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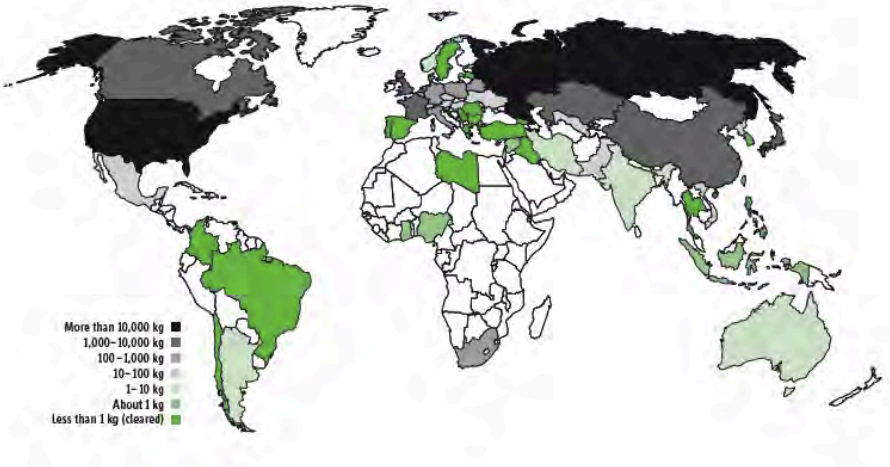

Global Distribution of Civilian HEU Stockpiles

Source: International Panel on Fissile Materials, *Global Fissile Materials Report 2011*

Some recent anecdotes of insecurity

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- Russia: Gen-Major Victor Gaidukov, commander of a nuclear weapon storage site, arrested for stealing millions of dollars (2011)
- Pakistan: Brig.-Gen. Ali Khan arrested for ties to Islamic extremists (2011)
- S. Africa: Two armed teams attack Pelindaba site where 100s of kilograms of HEU is stored, one penetrates 10,000 volt fence, disables intrusion detectors, shoots worker in emergency control center – never caught (2007)
- Belgium: Peace activists break into nuclear weapon storage base, spend >1 hour there before being detected and stopped (2010)
- United States: Bomber flies across the country with 6 nuclear weapons on board, no one knows – checks failed (2007)

With nuclear material, terrorists may be able to make a crude nuclear bomb

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- Government studies – in the United States and elsewhere – have repeatedly concluded that a sophisticated terrorist group could plausibly make a nuclear bomb.

- "A small group of people, none of whom have ever had access to the classified literature, could possibly design and build a crude nuclear explosive device... Only modest machine-shop facilities that could be contracted for without arousing suspicion would be required."

  – *U.S. Office of Technology Assessment, 1977*

North Korea and Iran are likely small parts of the nuclear terrorism problem

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- Nuclear security:
  - North Korea has only a few bombs' worth of plutonium in a tightly controlled garrison state – theft very unlikely
  - Iran has not begun to produce weapons-usable material – has only a small amount of HEU research reactor fuel
- Conscious state transfer:
  - Regimes bent on maintaining power unlikely to take the immense risk of providing nuclear bomb material to terrorist groups who might use it in a way that would provoke overwhelming retaliation
  - Transfers to other *states* – who are likely to be deterred from using nuclear weapons – a very different act
- High-level "rogues" within states
  - If stocks of weapons-usable material grew, could an "A.Q. Kim" sell without detection?
- State collapse:
  - Could have worrisome "loose nukes" scenario

Spread of nuclear power need not increase terrorist nuclear bomb risks

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- Most nuclear reactors do not use nuclear material that can readily be used in nuclear bombs:
  - Low-enriched uranium fuel cannot be used to make a nuclear bomb without technologically demanding further enrichment
  - Plutonium in spent fuel is 1% by weight in massive, intensely radioactive fuel assemblies
- Reprocessing (separating plutonium from spent fuel) could increase risks, requires intensive security and accounting
  - Poor economics, few additional countries pursuing – South Korea and China only countries currently considering shift
  - Reprocessing does not solve the nuclear waste problem – still need a nuclear waste repository
- Power reactors do pose potential targets for sabotage
  - Sabotage would mainly affect countries in region, global nuclear industry
  - As with nuclear theft, strong security measures can reduce the risk

Broad range of demonstrated adversary capabilities and tactics: outsider threats

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- Large overt attack
  - e.g., Moscow theater, October 2002: ~ 40 well-trained, suicidal terrorists, automatic weapons, RPGs, explosives, no warning
- Multiple coordinated teams
  - e.g., 9/11/01 -- 4 teams, 4-5 participants each, well-trained, suicidal, from group with access to heavy weapons and explosives, >1 year intelligence collection and planning, striking without warning
- Use of deception
  - Uniforms, IDs, forged documents to get past checkpoints, barriers
- Significant covert attack
  - e.g., Pelindaba attackers disabling intrusion detectors
- Use of unusual vehicles or routes
  - e.g., arrival by sea or air
  - e.g., multiple cases of tunneling into bank vaults

Broad range of demonstrated adversary capabilities and tactics: insider threats

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- Multiple insiders working together
  - Many cases of theft from guarded facilities worldwide
- Often including guards
  - Most documented thefts of valuable items from guarded facilities involve insiders – guards among the most common insiders
  - Goloskokov: guards "the most dangerous internal adversaries"
- Motivations:
  - Desperation
  - Greed/bribery/corruption
  - Ideological persuasion
  - Blackmail

A trustworthy employee may not be trustworthy anymore if his family's lives are at risk