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Nuclear Security in Russia – and Current State of Cooperation

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The threat to U.S. national security

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- ❑ Nuclear terrorism remains a serious risk
 - Consequences so devastating that even a small probability is enough to drive action to reduce it
 - Al Qaeda pursued nuclear weapons actively – incl. conducting explosive tests for the bomb program in the Afghan desert
 - No strong, publicly available evidence yet of ISIL work on nuclear weapons – and, wanting to protect its territory, it may be deterrable
 - *But* ISIL has global ambitions; ability to organize long-term projects; \$100s of millions to spend; recruits from all over; territory for plotting
- ❑ Nuclear material remains the best handle we have on preventing nuclear terrorism
 - ~20 publicly documented cases of smuggling of HEU, Pu
 - Most appear to have originated in Russia

Moscow building with enough HEU for a bomb, 1994

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- ❑ Problems then were visible, obvious
- ❑ Problems today are invisible, insidious

Nuclear security in Russia: The good news

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- ❑ Nuclear security in Russia is *dramatically* better than in the mid-1990s
 - No more gaping holes in fences
 - No more HEU and Pu left out on the tables at night
 - No more doors with no HEU or Pu detector (some exceptions)
 - No more staff not being paid for months at a time
 - No more guards leaving their posts to forage for food
 - U.S.-financed major security and accounting upgrades completed at vast majority of sites
 - Russia requires facilities to be protected against a range of possible outsider and insider threats
 - Improved regulations in place in many areas
 - Many facilities now have enough money to implement effective security (not all)
 - Broader effort to strengthen security culture

Nuclear security in Russia: the bad news

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- ❑ Some significant vulnerabilities remain
 - Weaknesses in protection against insider threats (more later)
 - Weaknesses in protection against outsider threats (more later)
 - Regulation and enforcement needs to be strengthened
- ❑ Significant threats remain (especially insider threats)
- ❑ Sustainability is a serious concern
 - Some facilities with little money or incentive to sustain effective security
- ❑ Security culture remains problematic
 - Widespread complacency, dismissal of threat, taking security short-cuts
- ❑ Nuclear weapons, HEU, and Pu are in far too many places
 - Example: U.S. has 1 operating HEU pulse reactor, Russia has 15

Nuclear security in Russia: the bad news: insider protection

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- ❑ Material accounting inadequate to detect protracted thefts, or thefts from old, stored material
 - Uncertainties in accounting mean thefts could be lost in the noise
 - No requirement for trend analysis to detect protracted thefts
 - Thousands of stored containers not re-measured to see if the nuclear material is still there
- ❑ Some exits may not be covered by portal monitors
- ❑ Inconsistent application of two-person rule
 - Rules don't require that people who come in together stay together
 - Rules sometimes violated
- ❑ Tamper-indicating devices could be defeated
 - Many could potentially be defeated without detection using readily available tools

Nuclear security in Russia: the bad news: insider threats

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- ❑ Widespread insider corruption and theft in Russia – some of which has penetrated the nuclear industry
 - 2008: Former Minister of Atomic Energy jailed for stealing \$31M
 - 2012: Director and two deputy directors of Siberian Chemical Combine (large HEU and Pu processing facility) arrested for (non-nuclear) corruption
 - 2010: General in command of nuclear weapon storage site relieved of duty, accused of corruption – press accounts suggest millions in theft
 - 2008: MVD colonel inspecting nuclear security arrested for soliciting bribes to overlook security violations

Nuclear security in Russia: the bad news: outsider protection

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- ❑ Continued reliance at some sites on conscript MVD guard forces
 - Shifting over time – more contract forces in some places, more longer-serving volunteers among the MVD
 - Conscripts are poorly paid, modest morale, modest training
 - Incidents of patrolling with no ammunition in weapons
- ❑ Still issues with inadequate clear zones, detection, and delay at some sites
- ❑ Uncertainties about regularity and realism of testing such as force-on-force exercises

U.S.-Russian nuclear security cooperation: what's done

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Category	Upgrades Complete?	Sustainability Work Ongoing?	Comment
MoD: warhead sites, naval fuel	✓	✗	No agreement left
Rosatom weapons complex	almost	✓	Most sensitive now
Rosatom civilian	✓	✓	Sustainable?
Non-Rosatom civilian	✓	✓	Sustainable?
Regulation, training, culture	ongoing	✓	More to be done
Reducing locations	beginning		Inherently sustainable

- ❑ Even where upgrades “complete,” further improvements (especially insider protection) often highly desirable
- ❑ At sites where all work is completed, little to no U.S. access or knowledge of how well security is being sustained

Elements of an effective nuclear security program -- and what we have influenced

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- ❑ Where U.S. programs have had a large influence:
 - Installation of modern security and accounting equipment
 - Availability of effective training
- ❑ Where U.S. programs have had a modest influence:
 - Better regulation (helped with stronger rules, but implementation an issue)
 - Stronger security culture (created broad program, but issues remain)
 - Consolidating to fewer locations (MCC, GTRI, some in other MPC&A)
- ❑ Where Russia needs to act for itself:
 - Providing professional, well-trained, well-motivated guard forces
 - Strengthening the authority and resources of regulators
 - Providing the money to sustain security for the long haul

Fundamentally, Russia needs to make a strategic decision that better nuclear security is needed, and deserves priority

U.S.-Russian nuclear security cooperation: changing times

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- ❑ CTR ended in June 2013, replaced by MNEPR
 - Work delayed, access limited, MoD work ended completely
- ❑ Large-scale equipment upgrades largely complete
 - Even without Ukraine, new approaches would be needed
 - Planned focus shifting to sustainability, regulation, culture, best practices...
- ❑ Rough political waters in both Washington and Moscow
 - Washington: broad concern about cooperation post-Ukraine; belief work is largely complete; belief Russia should pay for this itself
 - Moscow: opposition to anything that smacks of U.S. assistance to a “weak” Russia (but sites still eager for, express strong needs for, continued cooperation)
 - Rosatom review, no Rosatom contracts for work beyond 12/2014

Access matters

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- ❑ Strong U.S. national interest in having good knowledge of the state of security for the world’s largest nuclear stockpile
- ❑ On-the-ground visits provide a rich source of information
 - Can observe actual implementation
 - Can interact with working level staff informally
 - Majority of our knowledge of the key issues in nuclear security in Russia comes from such on-the-ground visits
- ❑ Access has always been politically difficult, is becoming more so
 - Extended period with no access as MNEPR was being negotiated, new MNEPR arrangements worked out
 - Access now more limited – may come to an end
 - Russians take a “pay per view” approach – access ends for sites where no substantial funding of work is any longer underway

Other areas of cooperation to reduce nuclear terrorism, proliferation risks

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- ❑ GTRI
 - Russia critical partner in removing HEU from Soviet-supplied countries
 - Most remaining HEU-fueled reactors targeted for conversion are in Russia
- ❑ Second Line of Defense
 - U.S.-Russia split the cost of installing detectors at all official ports and border crossings in Russia
 - Need to fix the holes blown in this ring by the Russia-Belarus-Kazakhstan customs union
- ❑ Intelligence on nuclear terrorism and smuggling
 - Both sides would benefit from broader sharing, cooperation
- ❑ Helping other countries, building global initiatives
 - P5+1; 6-party talks; arms reductions; Global Initiative; Global Partnership; PSI; strengthening IAEA; beefing up export controls...