

# Creating a Nuclear Security and Safety Regime for the 21<sup>st</sup> Century

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Nuclear Energy and Nuclear Security

Panel 2: Integrated Approaches to Nuclear Safety and Security

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Kenneth N. Luongo

President, Partnership for Global Security



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# Building Improved Nuclear Governance

- The Nuclear Security Summit (NSS) process and Fukushima crisis have made clear that current nuclear governance is not adequate for the 21<sup>st</sup> century.
- The NSS has not aggressively pushed the boundaries of the current nuclear material security regime. Fukushima illustrated the shortcomings of the current nuclear safety regime.
- Today, both regimes are almost entirely nationally focused and voluntary. But, nuclear crises do not respect borders, and national approaches and regulations alone are insufficient to protect the global community.
- The international community needs to get and stay ahead of potential nuclear crisis events.
- There is much that the nuclear security regime can learn from the nuclear safety and both should be better integrated as they evolve.



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# Three Objectives for a New Century

- There should be three nuclear policy objectives for the international community.
  1. Preventing nuclear terrorism using fissile materials (HEU & Pu)
  2. Preventing nuclear terrorism using high intensity radiological sources
  3. Preventing an unauthorized radioactive release from nuclear reactors

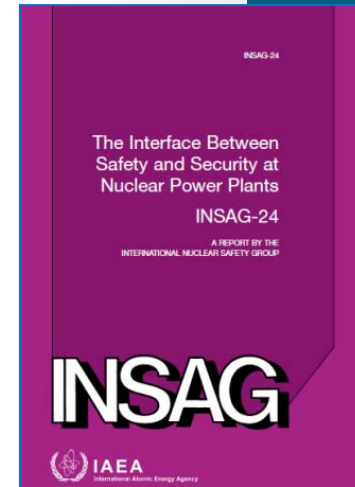


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# The Evolution of the Intersection of Nuclear Safety and Security

- The IAEA 2010 report, *Interface Between Safety and Security at Nuclear Power Plants*, concluded:
  - “Nuclear power plants benefit from a sophisticated and comprehensive safety regime that has been established over the years... the security regime for nuclear power plants is far less developed than the safety regime.”
- In September 2011 the United Nations (UN) Secretary General convened a high-level conference on nuclear safety and security during which he stated:
  - “The effects of nuclear accidents respect no borders. To adequately safeguard our people, we must have strong international consensus and action.”
- The 2012 NSS in Seoul, South Korea in March will primarily focus on nuclear security, but it will also address the intersection of nuclear safety and security.



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# Five Key Safety Regime Elements

- Five elements of the nuclear safety regime have direct applicability to the nuclear security regime but are not yet integrated into it:
  1. Regularized assessments of quality
  2. Information sharing on practices
  3. Peer review of national reporting
  4. Periodic reviews of the implementation of relevant international conventions
  5. Strong trade organizations
- Elements 1-4 are embodied in the Convention on Nuclear Safety (CNS) and have been critical to the safety regime's gradual improvement over time.
- The World Institute for Nuclear Security (WINS) is not yet as strong as the Institute of Nuclear Power Operations (INPO) and World Association of Nuclear Operators (WANO).



At the NSS, a commitment could be made to take action on addressing how each of these elements could be applied to the nuclear security regime over time.



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# Four Barriers to Application

- Barriers to the effective application of the five elements of the safety regime into the nuclear security regime include:
  1. National sovereignty
  2. Lack of information transparency
  3. Lack of policy consensus
  4. Challenges of regime harmonization
- Increased transparency does not mean making sensitive information public.
  - The U.S. and Russia found ways to work together to improve nuclear security without compromising sensitive information.
  - IAEA and CNS reviews maintain confidentiality.



At the NSS, these barriers could be acknowledged as important issues to be addressed as the nuclear security regime and the NSS process evolve.



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# Voluntary and Mandatory International Standards and Actions

- The largely voluntary and national nature of the implementation of nuclear safety and security is in conflict with the fact that nuclear crises do not respect borders, as noted by the UN Secretary General.
- An optimal balance between mandatory international standards and voluntary actions should be found to supplement the national approaches to nuclear safety and security.
- Options might include providing advance consent to the IAEA for periodic evaluations of states' nuclear safety and security measures.



At the NSS, participants could endorse the further exploration of additional binding and non-binding international safety and security requirements.



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# Public Confidence in Nuclear Power

- In order to maintain public and political confidence in nuclear power as it expands in the 21<sup>st</sup> century, there must be greater confidence in the overall protection of facilities and materials.
- Steps to build confidence should include:
  1. Strengthening the independence of nuclear regulatory authorities
  2. Harmonizing accident/incident reporting parameters and expanding information sharing and transparency in a crisis
  3. Incorporating security as a fundamental element in new reactor designs
  4. Instituting robust protection of nuclear facilities against cyber attack



At the NSS, participants could issue a statement supporting these four confidence building actions.



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# After the Seoul NSS

- The priority of continually improving nuclear safety and security must remain high in all nations whether the NSS process continues or not.
- Policymakers should be thinking about how to build on the foundation of the NSS process, including by:
  - Encouraging civilian nuclear operators to engage with their foreign counterparts on nuclear security best practices while protecting sensitive information
  - Creating the opportunity for regularized dialogue and interactions among nuclear operators, regulators, international organizations, and policy experts



At the NSS, participants should bolster the objective of continual improvements by creating opportunities for new engagement and dialogue among a broader group of global stakeholders.



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# One Path Forward

- The safety and security of nuclear materials and facilities have significant transnational implications.
- States' rights to control their nuclear infrastructure and materials must be better balanced with protecting the international community from nuclear crises.
- This raises several questions about how best to innovate global nuclear governance, including:
  - Is there a value of creating a binding international nuclear protection “standard” or “baseline”?
  - How should nuclear governance guidelines, practices, and institutions evolve?
  - How to educate the public on the importance of strengthening nuclear governance to instill confidence in the continued use of nuclear power?
  - Who should develop the recommendations – an independent global Nuclear Governance Experts Group?



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# Contact Information



**Kenneth N. Luongo**

President, PGS

**Email:** [kluongo@partnershipforglobalsecurity.org](mailto:kluongo@partnershipforglobalsecurity.org)

Partnership for Global Security  
1025 Connecticut Ave., NW  
Suite 506  
Washington, D.C. 20036

Phone: 202-332-1412

Fax: 202-332-1413



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