

**“Comparative Analysis of Soviet/Russia Federation  
Cooperative Threat Reduction Experience with  
Challenges of Cooperative Threat Reduction  
for North Korea”**

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**APLN Project on Applying CTR+Nuclear  
to the Korean Peninsula  
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# Comparison of Soviet/Russia to DPRK

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- Threat
- Size
  - Nuclear weapons
  - Delivery systems – missiles and airplanes
  - Facilities
  - People
- Sophistication
  - Scientific and technical community
- Connectivity
  - With external scientific and military community



## The Threat

Nunn and Lugar “...helped Russia and other former Soviet republics cope with an **inheritance from hell.**”

David E. Hoffman – *The Dead Hand*

- **Loose nukes**
- **Loose nuclear materials**
- **Loose nuclear people**
- **Loose nuclear exports**

**Threat: Nukes out of the hands of Soviet government**

# Nuclear threat from North Korea

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- Misunderstanding, miscalculation, mistake
- Act of last resort facing perceived existential threat
- Regime change – external, internal, health
- Adventurous military
- Export of nuclear technologies in desperation

End goal must be the elimination of nuclear weapons and program.  
Halt, roll back and eliminate.

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- **Size**
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  - **People**
- Sophistication
  - Scientific community
  - Nobel laureate scientists vs. competent engineers
  - Nuclear tests – 715 vs. 6
- Connectivity
  - Limited connection to outside scientific and technical world
  - No contact between strategic rocket force militaries

# U.S. view of 1992 threat from Soviet breakup

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- **Loose nukes**
  - **Tens of thousands nuclear weapons**
- **Loose nuclear materials**
  - **~ 1,400,000 kg fissile materials**
- **Loose nuclear people**
  - **Several hundred thousand in nuke complex**
- **Loose nuclear exports**
  - **Huge complex, with economy in chaos**

**It had the making of a perfect nuclear storm**

## DPRK estimated current nuclear capabilities (S.S. Hecker)

Nuclear Capability	December 2020 (Rough estimates)
Plutonium	25 – 48 kg
HEU (highly uncertain)	~650 - 900 kg
Tritium	Very limited
Nuclear devices (sufficient material)	~45 (20 to 60)* (Very few hydrogen bombs)
Nuclear device deliverable by SCUD & Nodong missiles	Yes
Nuclear device deliverable by IRBMs & ICBMs	Hwasong-12, 14, 15, 16? Not yet militarily useful.

\* Numbers based on amount of bomb fuel available – may not all be weaponized

# Soviet – North Korea comparison

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- **Loose nukes**
  - **Tens of thousands nuclear weapons**
    - **30 to 50 nukes**
- **Loose nuclear materials**
  - **~ 1,400,000 kg fissile materials**
    - **~ 1,000 kg**
- **Loose nuclear people**
  - **Several hundred thousand in nuke complex**
    - **Several thousand**
- **Loose nuclear exports**
  - **Huge complex, with economy in chaos**
  - **Libya (end 2003), Syria (end 2007)**



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# Lessons from Soviet/Russia CTR

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- Requires bold political initiative – new thinking
- Needs strong, sustained U.S. political support
- Keep the focus on” CTR” – Cooperative, Threat and Reduction
  - Must be designed and implemented together (cooperative)
- Involvement of technical professionals, role of Track II
- Nuclear worker reorientation – **important, but difficult**
- Focus on bilateral programs, but welcome international participation

# Thoughts about a bold DPRK initiative

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- Cooperative military to civilian conversion
- Elimination of North Korea's chemical weapons as a confidence-building step for nuclear disarmament