

Implementing WMD Export Controls: The Threat Environment

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Two Distinct but Interconnected Threats



State Actors: Threats from regional powers possessing or seeking WMD

Non-State Actors: Threats from terrorist organizations



1995 Tokyo sarin attack

Greatest danger: that WMD will move from state to non-state actors

Different Weapons for Different Actors

States

- Nuclear, BW, CW, missiles (cruise, ballistic), advanced conventional weapons
- Militarily significant numbers required
- Seeking *all* production equipment & precursors



Radioactive source
usable in “dirty bomb”

Terrorist Organizations

- Nuclear, BW, CW, radiation
- Very small numbers sufficient
- Seeking nuclear-weapons material, radioactive sources (cannot produce either); small-scale CBW production equipment, precursors



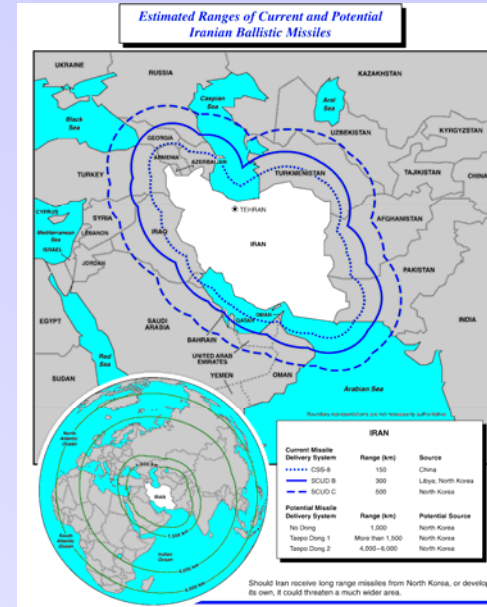
Ghauri missile

Distinct but Potentially Related Goals

States - Seeking local dominance or deterrence; most dangerous also seeking asymmetric threat to challenge outside powers



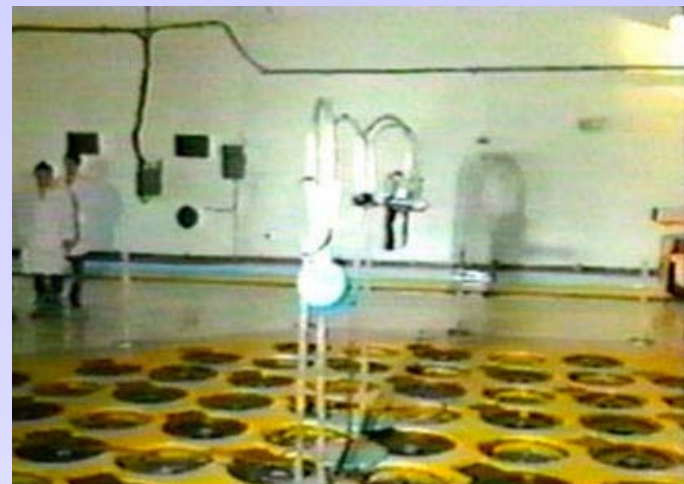
Terrorist Organizations – Seeking to cause massive injury; *al Qaeda highly likely to use WMD if available*



Interconnection – Governments or elements in some proliferant states strongly support terrorist goals; may transfer WMD to terrorist organizations

North Korea

- Believed to possess 4-7 nuclear weapons
- Declared in Sept. '04 it transformed nuclear weapons material into “arms”
- Known plutonium production
- Highly enriched uranium production program (A.Q. Khan network)
- Hundreds of missiles able to reach South Korea, Japan
- Taepo-Dong 2 may be potentially capable of reaching U.S. with WMD (no flight tests since 1998)
- Missile exports to Iran, South Asia (including production capabilities)
- Large CW stocks; BW program (?)



Yongbyon spent fuel storage

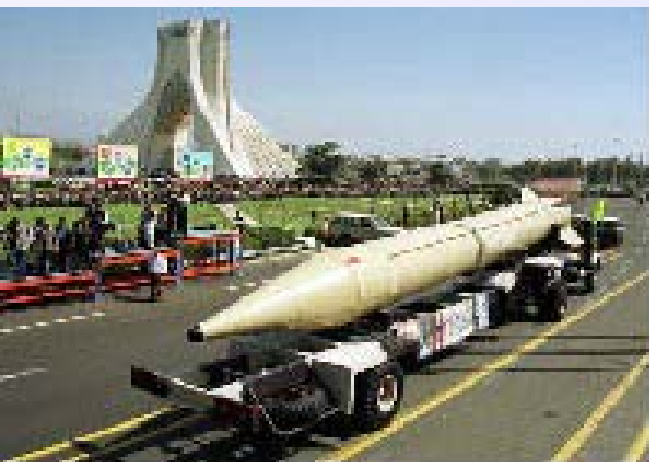


Taepo-dong 1

Iran



- Large-scale uranium enrichment program; no HEU production to date.
- Plutonium production potential
- Concealed from IAEA
- Clandestine support from A.Q. Khan network
- “Break-out” potential a continuing concern



Shahab 3

- Shahab 3 intermediate-range ballistic missile (IRBM) able to reach Israel; in production; based on North Korean No-Dong
- Shahab 4 IRBM able to reach eastern Europe(?); flight tests
- CW stocks; suspected BW program

Iran (2)

- With nuclear weapons Iran could intimidate other regional states; support militant insurgencies near-by, while deterring retaliation; and pose a fundamental threat to Israel's existence
- Could spur further proliferation in region
- Radical Islamic government actively supports Hamas, Hezbollah; links to al Qaeda
- *Once n-weapons material produced, leakage to terrorists would be a constant danger; even if top leaders opposed this, radical elements in "nuclear chain of command" might act independently of government*
- No known transfers of Iranian WMD (e.g., CW) to terrorists



Iranian leader Khamenei

Syria

- Large-scale CW capability
- Missile force able to strike near-by targets (Scud-B,C; SS-21)
- Suspected BW program
- No nuclear program observed
- Extensive smuggling to Iraq of dual-use equipment



Al Safir CW plant

South Asia: Security of WMD Materials

- India and Pakistan
 - 10s of nuclear weapons
 - Missiles able to strike throughout region
 - Production and processing of highly enriched uranium and plutonium
 - History of domestic terrorism and compromise of high security zones (e.g., assassination attempts against Pakistani President Musharraf)
 - Both working to guarantee security of nuclear weapons and materials



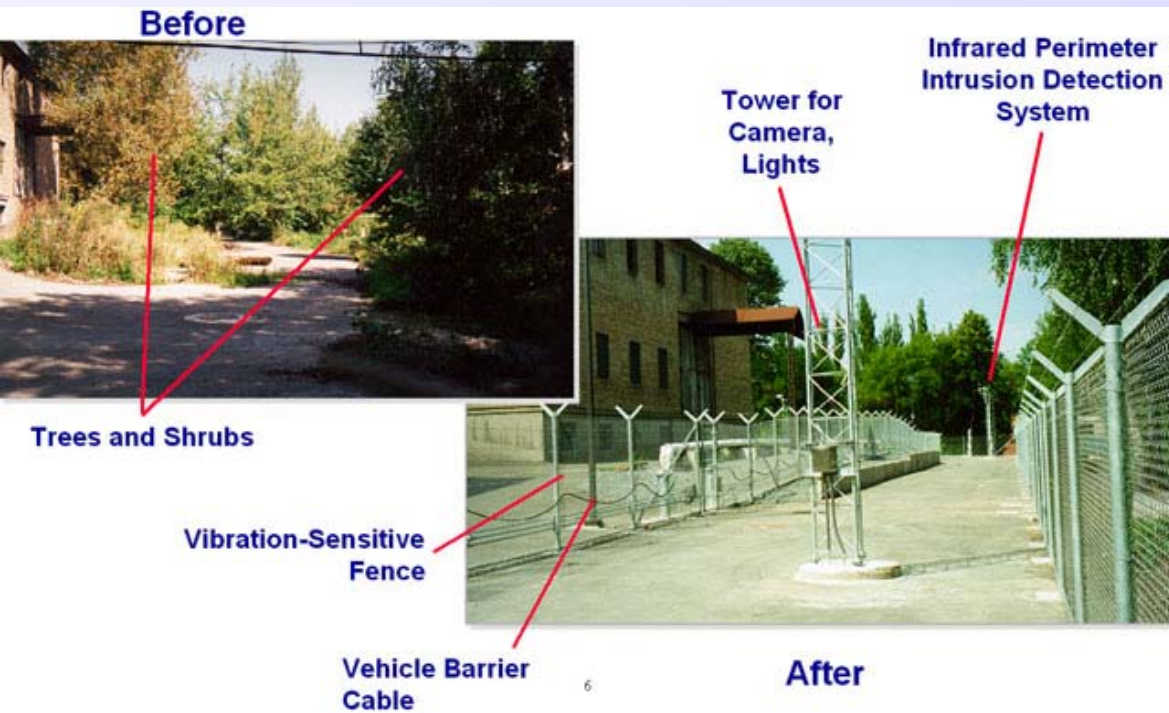
India's Bhabha Atomic Research Center



Enrichment centrifuges like those at Pakistan's Kahuta plant

Soviet WMD Legacy

- 600 tons of highly enriched uranium & plutonium in Russia
- Active U.S., G-8 programs to help secure and eliminate materials; security program less than half complete
- Massive CW stocks; slowly being eliminated
- Extensive Soviet BW program (“strain drain”)
- Danger of WMD “brain drain” (U.S., Group of 8 programs)



**Typical U.S.-assisted
nuclear material
security improvements**

WMD Smuggling Networks

- **A.Q. Khan network** – Proliferator to Proliferator
 - Unprecedented scale: Iran, Libya, N Korea
 - Unprecedented scale, content: Uranium enrichment centrifuge know-how, equipment, precursors; nuclear weapon design
 - Unprecedented use of “out-sourcing” (Malaysian machine shop, etc.)
 - *Export control success*: Network thwarted; led Libya to renounce WMD



A.Q. Khan



Muammar Khadafi

WMD Smuggling Networks (2)

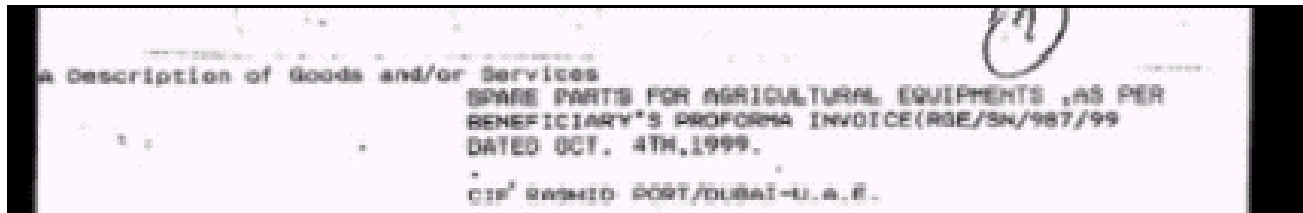
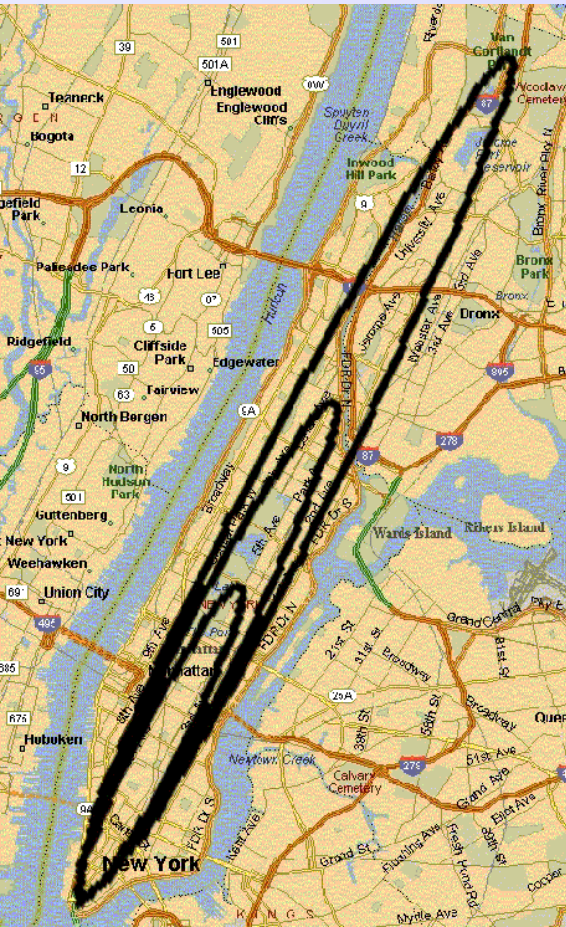


Figure 64. A bill of lading from October 1999 for T-72 and T-55 tank engines described as "spare parts for agricultural equipments."

- **Saddam Hussein Network** – Advanced State to Less Advanced State
 - Classic ploys: false end-uses/users; front companies; transshipments via Jordan (to 1995), Syria
 - *Export control success*: Iraq obtained only dual-use items; unable to reconstitute WMD programs
- **North Korea Network(s)** – Advanced State to Less Advanced State
 - Firms in Japan, Taiwan
 - Transshipment via Hong Kong, Singapore, China

Which Terrorist Groups?



**Cobalt-60 dirty bomb used
against Manhattan**

- Only most radical motivated to *use* WMD
- Only most sophisticated could obtain highly enriched uranium (plutonium bomb, too complex) and construct improvised nuclear device
- *At present, only al Qaeda interested in and capable of most dangerous WMD terrorism*
- Others could use CW, dirty bomb, and, possibly BW

Key Threats and Export Controls

- States acquiring WMD and missile capabilities clearly aimed at threatening both regional neighbors and outside powers – North Korea and Iran
- Poorly secured stocks of WMD matériel and uncertain chains of authority that could allow terrorists to acquire WMD – former Soviet Union and South Asia (and, potentially, Iran)
- World-wide, al Qaeda terror network is actively seeking WMD

Export controls remain critically important in meeting these threats

- North Korea and Iran remain dependent on imports for critical WMD commodities, despite efforts to indigenize
- Terrorist organizations will need to move WMD and WMD material across borders to reach high-profile targets
- Export controls (augmented by measures such as Proliferation Security Initiative) play major role in retarding proliferation but aggressive enforcement is essential to success