

Trends in Nuclear Forces and Doctrine

Presentation To:

Symposium on Strengthening the Nuclear Nonproliferation Treaty

Organized by Pugwash Denmark
Landstingssalen, Folketinget
Copenhagen, November 17, 2008

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Overview

- Status of Nuclear Force: What has Changed?
- The Situation in Europe
- Modernizations and New Forces
- Doctrine, Mission, and Strategy
- The Obama Administration: What to Expect?

Note: data and images used in this briefing are from publications available at

* FAS Nuclear Information Project (<http://www.fas.org/programs/ssp/nukes/index.html>)

* FAS Strategic Security Blog (<http://www.fas.org/blog/ssp/>)

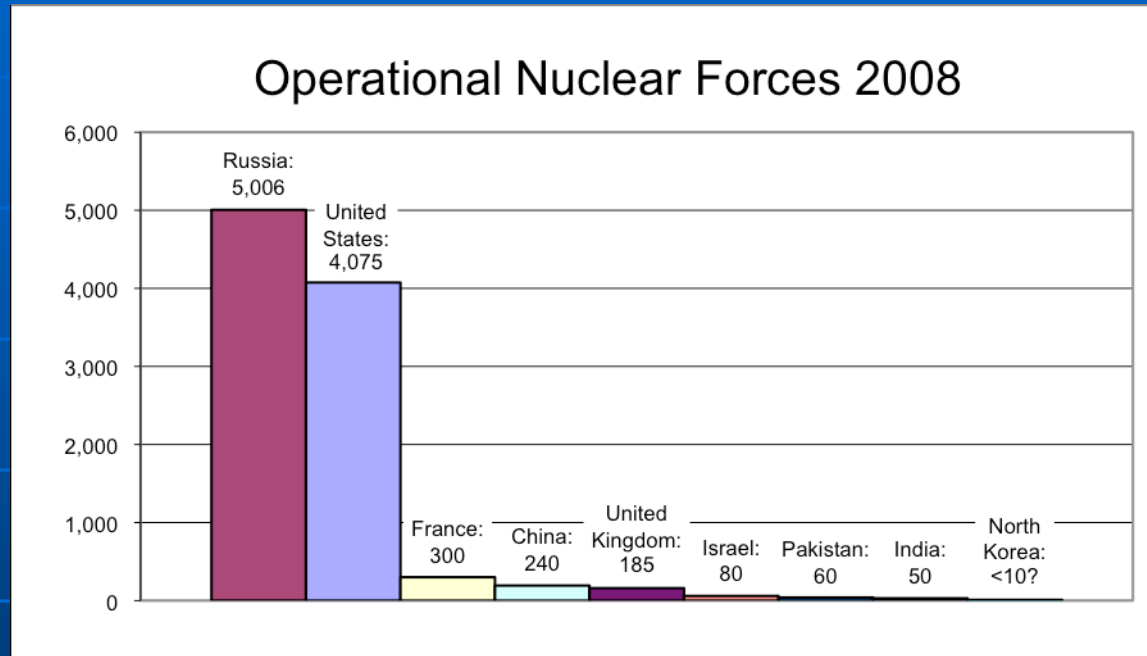
* FAS/NRDC Nuclear Notebook, *Bulletin of the Atomic Scientists* (<http://tinyurl.com/4jdzw2>)

Status of Nuclear Forces

What has Changed?

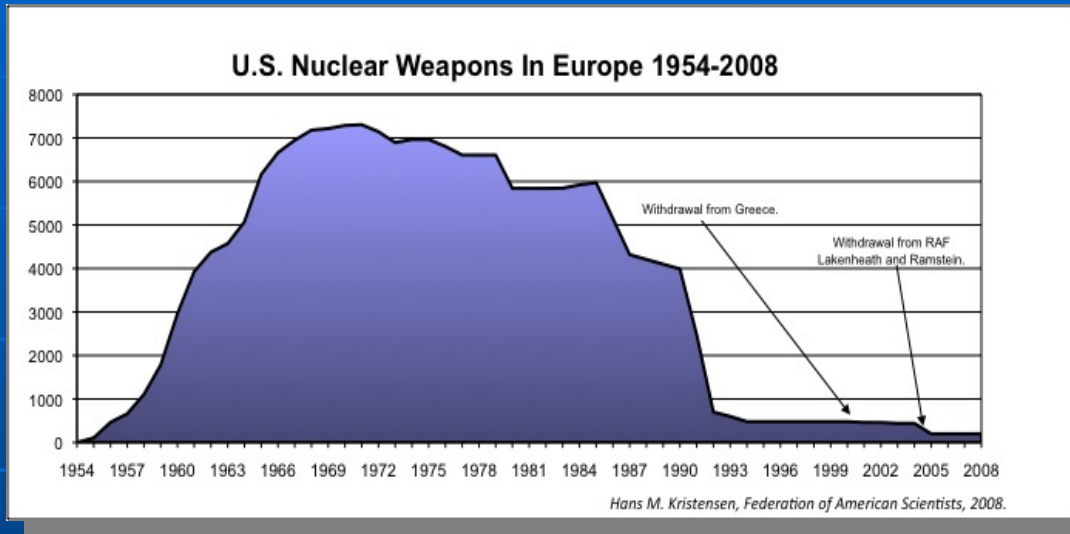
- Large numerical cuts, elimination or reduction of non-strategic weapons, withdrawal from many forward locations, but...
- All NWS say nuclear weapons are essential for national security
- All NWS signal intention to have nuclear weapons indefinitely; elimination remains lofty and very long-term goal
- All NWS have nuclear weapon modernizations underway
- All NWS are producing nuclear warheads
- Russian and United States maintain Cold War structure of Triad with about 2,000 warheads on high alert
- China is building Triad; only NPT NWS increasing size
- France and UK cut legs to Dyad and Monad, respectively
- India/Pakistan building Triads; naval leg still developing
- North Korea probably only have bombs, if at all

Status of Nuclear Forces



- Nearly 10,000 operational nuclear weapons
- Total stockpiles nearly 25,000, if including reserves and those awaiting disassembly
- More than 90% are Russian and US
- The “greatest threat” has less than 10, if that

Non-Strategic Nuclear Weapons in Europe



- Reduced 90% since Cold War
- Some 200 US nuclear bombs at six bases in five countries
- Withdrawn from Greece in 2001
- Withdrawn from Ramstein and Lakenheath in 2005-2006

- Russia has an estimated 5,300 NSNW
- 2,000 are thought to be deployed
- About 650 of these may be air-delivered, perhaps half west of Ural

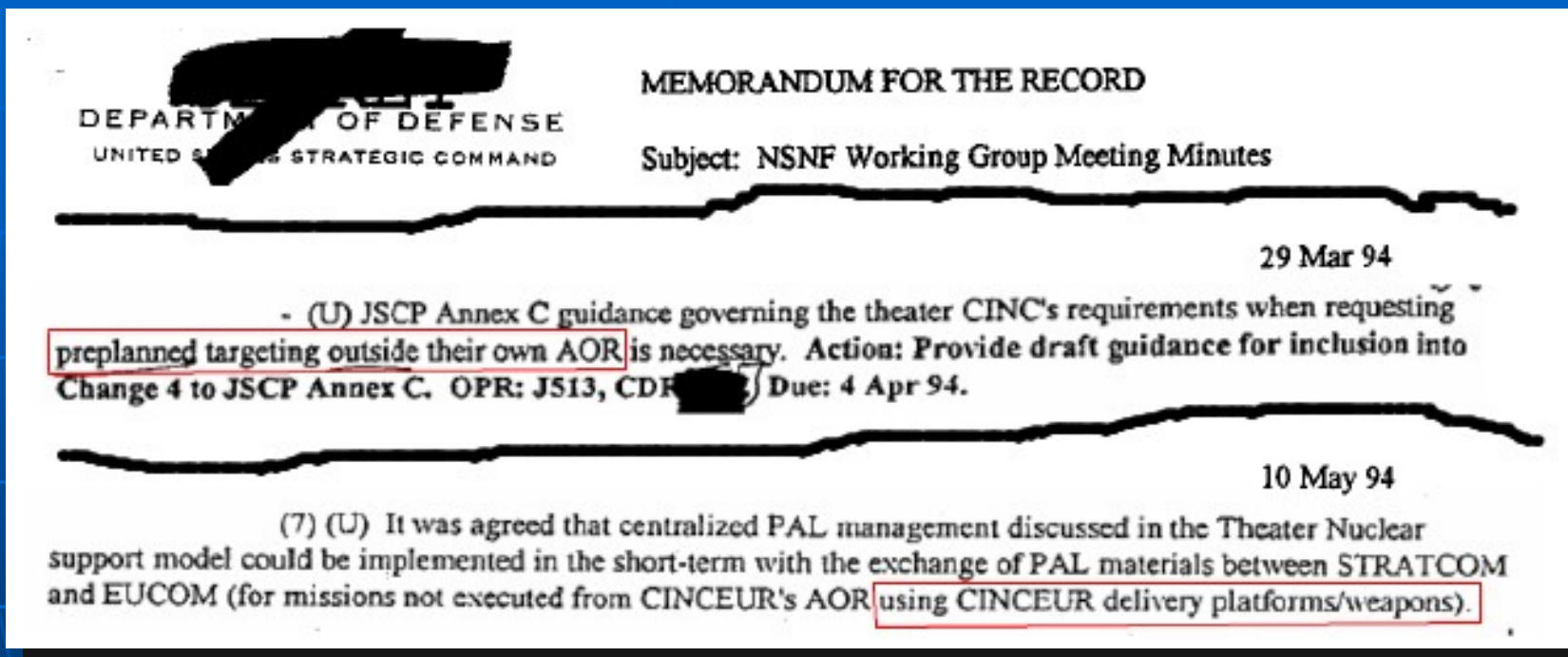
Non-Strategic Nuclear Weapons in Europe



- Four non-nuclear NATO countries have nuclear strike mission: Belgium, Germany, Holland, Italy
- US weapons would be handed over in war time, creating NWS
- Arrangement from Cold War
- Incompatible with nonproliferation



Non-Strategic Nuclear Weapons in Europe



- Mission creep outside NATO
- Arrangements made in 1990s for us of European “platforms/weapons” outside NATO’s area of responsibility

Modernization and New Forces

United States:

- New bomber design study underway
- New SSBN design study underway
- New ICBM design study completed
- Production of nuclear-capable JSF (F-35)
- Minuteman III ICBM near completion of upgrade, extended through 2030
- Trident II SLBM introduction in Pacific almost complete
- W76-1/Mk4A production 2008-2021
- W88 production underway
- Study of Reliable Replacement Warhead
- New warhead factory proposed
- Hydrodynamic testing series
- Strategic War Planning System (ISPAN) modernization
- AEHF satellite system to replace MILSTAR



Modernization and New Forces

Russia:

- New SSBN entering service with new SLBM
- New MIRV ICBM (RS-24) to enter service in 2009
- New air-launched cruise missile entering service
- Deployment of silo/mobile Topol-M underway
- Production of Tu-160 bomber resumed
- Warhead production ongoing
- Hydrodynamic testing series



Topol-M on Red Square 2008



Borei SSBN in Severodvinsk 2006 and 2008

Modernization and New Forces

China:

- 3-5 new SSBNs entering service
- 2008 deployment to Hainan (right)
- Hainan Island base with tunnel and demagnetization
- New SLBM (JL-2)
- Two new ICBMs entering service (DF-31 and DF-31A)
- Nuclear-capable cruise missile (DH-10) entering service
- Production of DF-21 continues
- Warhead production probably ongoing



Modernization and New Forces

France:

- New SSBN class (Triomphant)
- New SLBM (M51)
- New cruise missile (ASMP-A)
- New strike aircraft (Rafale)
- Warhead production
- Hydrodynamic/laser testing



Terrible 2008



Rafale with ASMP-A

United Kingdom:

- New SSBN class
- Life-extended/modernized SLBM
- New/modernized warhead decision
- Hydrodynamic testing (in the US) and laser



Vanguard D5
launch 2005

Doctrine, Mission, and Strategy

- **United States:** SIOF replaced with OPLAN 8010; Russia no longer “immediate contingency” but still largest target base; increased targeting of China; majority of SSBNs deployed in Pacific; targeting policy broadened to include all WMD facilities; executable nuclear strike options against “rogue” states now part of OPLAN 8010; new Global Strike mission with preemptive focus
- **Russia:** Nuclear funding decline said to be over; large-scale exercises resumed; US not considered enemy but deep suspicion; nuclear resurgent and “chest-thumping;” no-first-use policy reversed; policy includes preemption; non-strategic weapons compensating for conventional insufficiency; threats against missile defense
- **France:** Increased attention to regional states; adjustment of force loading
- **China:** Modernization has triggered speculations about more dynamic doctrine; no-first-use officially intact but increasingly dubious
- **United Kingdom:** “Sub-strategic” mission; targeting data opened up for eastern Russia

The Obama Administration



Stated goals:

- Reinstates nuclear disarmament as official goal for U.S. policy but sees “long road” ahead
- Reaffirm commitments to and strengthen of NPT
- Ratify CTBT (new Senate support possible)
- Extension of START beyond 2009
- Implement SORT numbers now and follow-up treaty (“dramatic reductions”)
- Seek de-alerting forces (negotiated)
- No production of “new” nuclear weapons
- Seek “ban on production of new nuclear weapons material” (negotiated)
- Make INF-Treaty global (negotiated)
- Missile defense scaled-down; not priority

Possible measures:

- Reinstigate “13 practical steps” (or some) from 2000 NPT Review Conference
- Withdrawal of nuclear weapons from Europe (depends on Europe)
- Relaxation of preemption doctrine and regional nuclear deterrence
- Reexamine WMD (vs. nuclear) deterrence

The Obama Administration



The other pledge to “maintain a strong nuclear deterrent as long as nuclear weapons exist” probably means:

- Retain nuclear forces “second to none”
- Continue modernization of nuclear forces (Triad or Diad)
- Continue broad doctrine against all nuclear weapon states including regional states
- Build life-extension warheads
- Build replacement warheads when needed as long as not “new”

The bottom line:

- Undo Bush administration’s nuclear policies
- Reaffirmation of main parts of Clinton policy
- Restore arms control and multilateralism in U.S. policy