



FAS Report on Status and Trends of U.S. and Russian Non-Strategic Nuclear Weapons

Context:

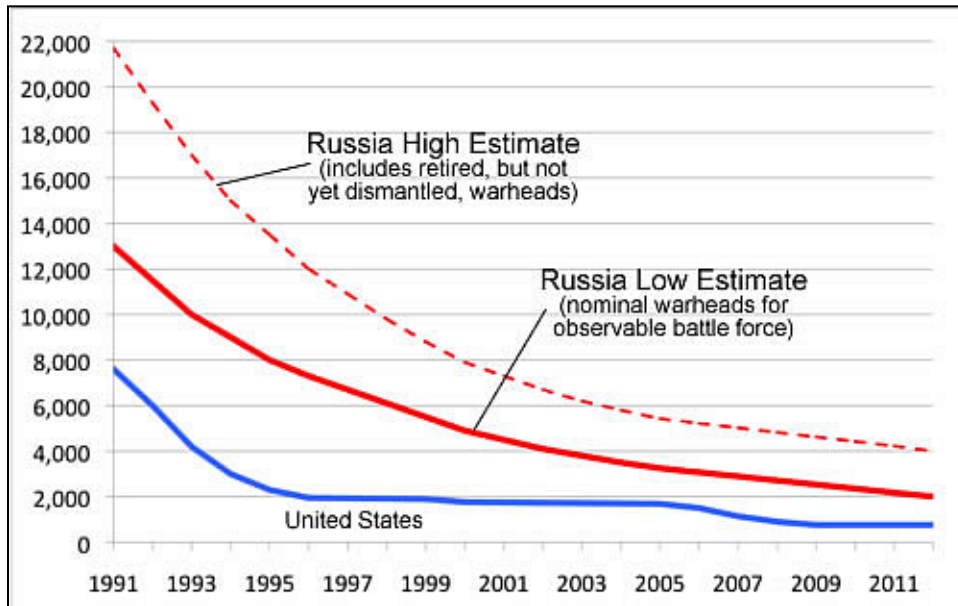
- 2012 NATO Summit
- 20th Anniversary of 1991/1992 Presidential Nuclear Initiatives

Briefing by Hans M. Kristensen, U.S. Senate, May 3, 2012

Link to full report:

http://www.fas.org/_docs/Non_Strategic_Nuclear_Weapons.pdf

Inventories



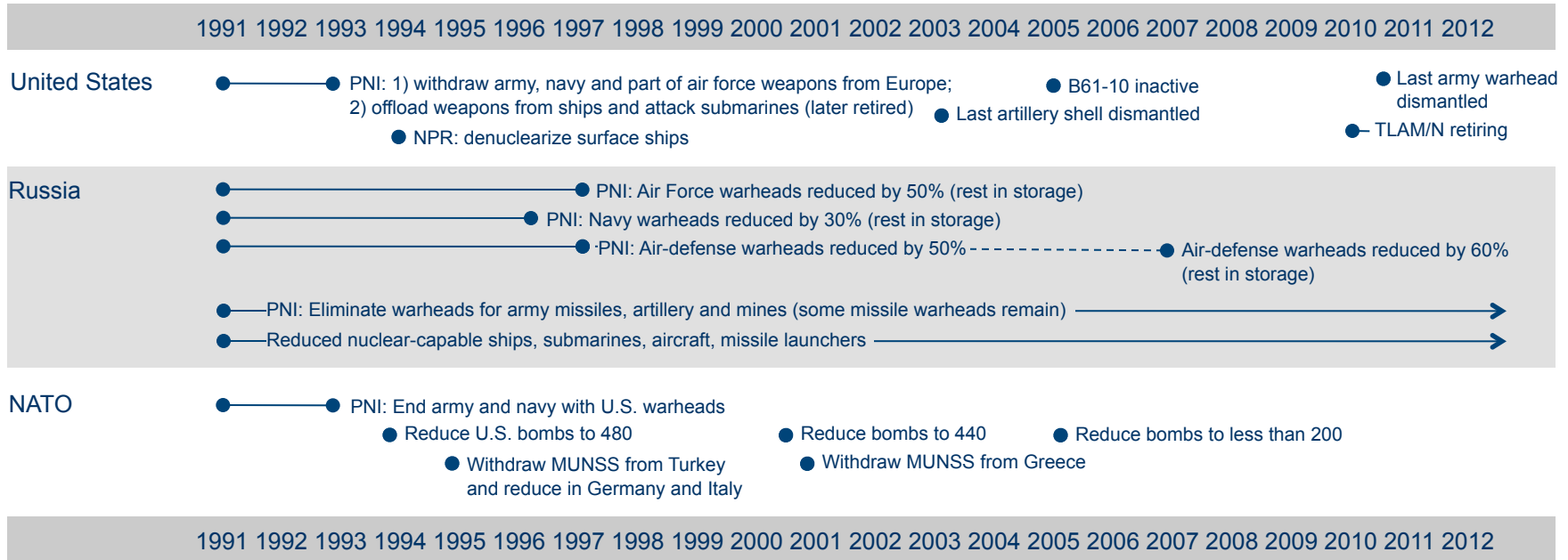
- U.S. and Russian combined stockpiles of non-strategic nuclear warheads reduced by roughly 90 percent since 1991

- Some 2,800 warheads remain assigned to non-strategic forces:

Russia: 2,050
United States: 760

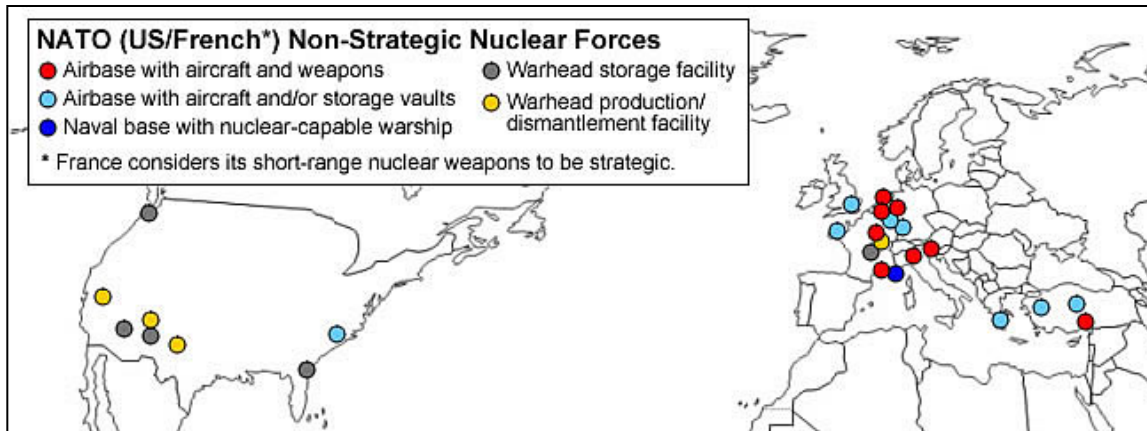
- Several thousands additional retired but intact warheads in storage are awaiting dismantlement
- Stockpiles will decline in next decade with or without arms control agreements

The European Drawdown



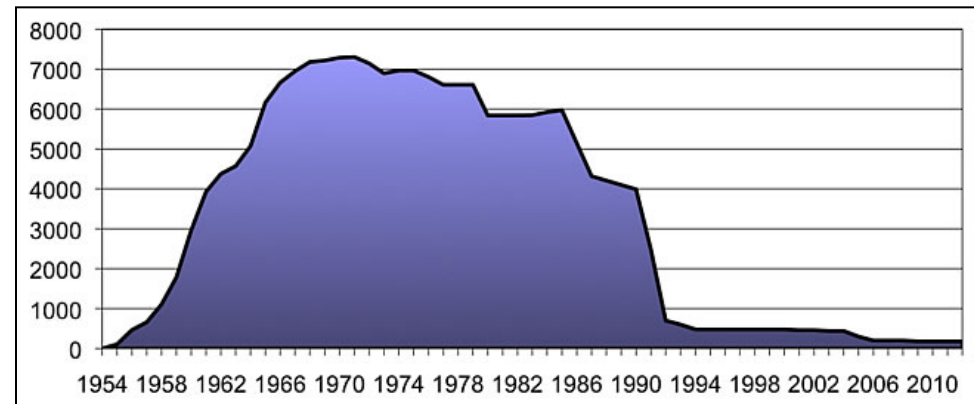
Unilateral initiatives have been, by far, the most efficient – and so far the only – means to reduce non-strategic nuclear weapons

Locations of US/NATO Non-Strategic Forces



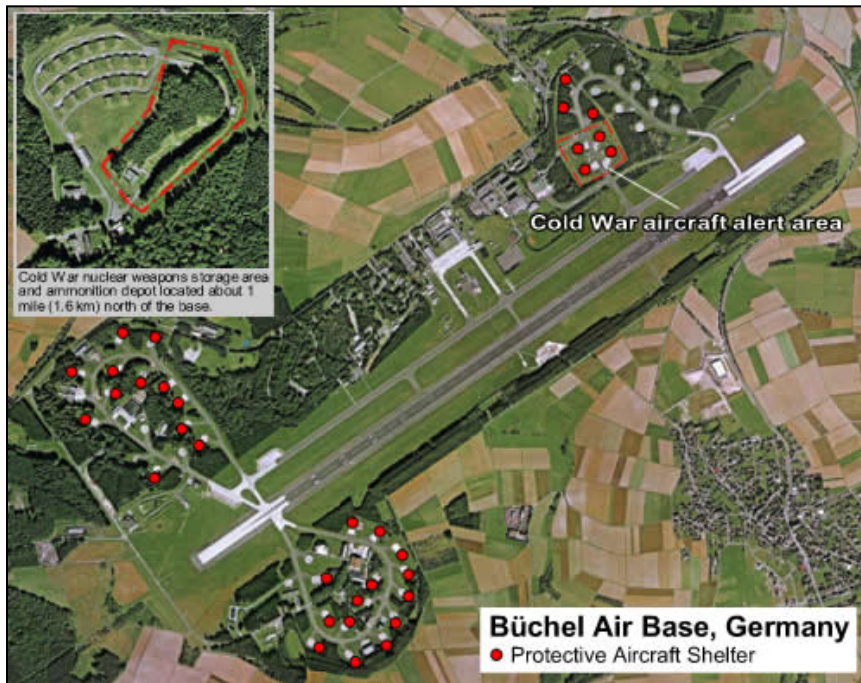
- Split between Europe and continental United States
- 18 facilities have nuclear-capable delivery vehicles, storage facilities and/or weapons
- French air-delivered cruise missiles fall into non-strategic category although France calls them strategic

- Nearly 200 U.S. B61 bombs scattered in 87 underground vaults underneath aircraft shelters at six bases in five European countries
- Additional bombs in the United States for extended deterrence missions elsewhere
- 260 W80-1 warheads for Tomahawk sea-launched cruise missiles in storage are being retired



U.S. nuclear weapons in Europe have declined by 93 percent since 1991

Example of NATO Nuclear Base: Germany



- Büchel AB: stores 10-20 U.S. B61 bombs for delivery by German Tornado aircraft
- Bombs in underground vaults inside 11 aircraft shelters only a few meters from aircraft
- Bombs in custody of USAF 702nd MUNSS
- Tornado expires in 2020s



Example of NATO Nuclear Base: Turkey



- Incirlik AB: stores 60-70 U.S. B61 bombs for delivery by U.S. F-15E or F-16 aircraft and Turkish F-16
- Bombs in underground vaults inside 25 aircraft shelters
- Uncertainty about national strike mission; some say F-16s have never had nuclear capability, but Pentagon sources say Turkey currently uses the aircraft for the NATO strike mission



Images

Top: Incirlik AB stores 60-70 U.S. B61 bombs, a reduction from 90 in 2001.

Right: Turkish F-16s from the 191st Squadron of the 9th Fighter Wing at Balıkesir AB during Steadfast Noon nuclear strike exercise at Volkel AB in 2011

NATO Nuclear Sharing

“NATO’s unique nuclear sharing arrangements under which non-nuclear members participate in nuclear planning and possess specially configured aircraft capable of delivering nuclear weapons”

U.S. Nuclear Posture Review Report, April 2010



Countries involved: Belgium, Germany, Italy, Netherlands and Turkey

NPT Article II: “Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly....”

U.S. interpretation: Weapons at national bases are under control of U.S. military “unless and until a decision were made to go to war, *at which time the treaty would no longer be controlling.*” (Emphasis added)

U.S. State Department, 1968

NATO interpretation: When the NPT was negotiated, nuclear sharing arrangements were already in place. Their nature was made clear to key delegations and subsequently made public. They were not challenged.



Images

Top: USAF personnel supervise German airmen loading B61 nuclear bomb trainer onto German Tornado bomber

Bottom: Dutch pilot with nuclear mushroom cloud on helmet during Steadfast Noon nuclear strike exercise at Volkel AB in 2011

US/NATO Nuclear Modernization

NATO nuclear modernization underway:

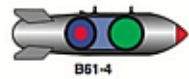
- Develop new nuclear bomb by combining three tactical (B61-3/4/10) and one strategic (B61-7) versions into one (B61-12): First “smart” nuclear bomb with guided tail kit to increase accuracy. Can hold more targets at risk and reduce radioactive fallout (more useable weapon). Deliver from 2019.
- Equip F-35 Joint Strike Fighter with nuclear capability: First stealthy fighter-bomber with increased capability to strike undetected. Delivery to Italy, Netherlands and, Turkey and US. Air Force.



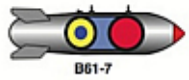
4 Bomb types



B61-3



B61-4



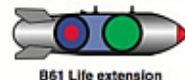
B61-7



B61-10

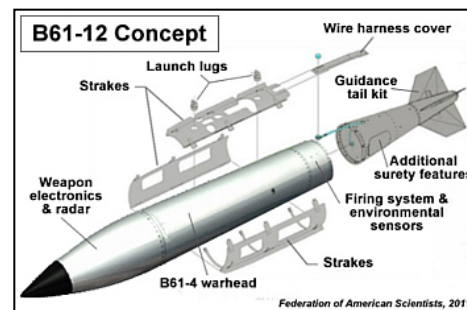


Consolidated to 1 bomb design



B61 Life extension

Although the B61-12 will use the smallest nuclear warhead from the tactical B61-4, the increased accuracy from the tail kit will give it a target kill capability similar to the B61-7; the B61-12 will be a strategic bomb with less fallout.



B61-12 will be more accurate than the B61-3/4 currently in Europe



F-35 will carry two B61-12 bombs internally and be harder to detect

Locations of Russian Non-Strategic Forces



- At least 80 facilities have nuclear-capable delivery vehicles, storage facilities and/or weapons
- All warheads are in central storage
- Some storage facilities are near bases with delivery vehicles
- Service breakdown of remaining 2,030 warheads:*
 - Air Force: 730
 - Navy: 700
 - Defense: 430
 - Army: 170

* Estimates based on analysis of Russian order of battle and nominal force loadings of each delivery vehicle.

Russian Non-Strategic Forces



- Wide range of weapon types and platforms
- Cruise missiles, anti-submarine rockets, bombs, air-to-surface missiles, ground-launched ballistic missiles, air-defense interceptors, coastal defense missiles, mines
- Most weapons assigned to navy and air force
- Nearly all are Soviet-era weapons; many will probably be retired in foreseeable future
- Modernization includes Tu-22M3, possibly Su-34 bomber and SS-26 Iskander
- Rumors of a new land-attack cruise missile have not materialized yet

Russian Non-Strategic Forces



- Russia's tactical air force is the only part of its non-strategic nuclear posture that is comparable to NATO's non-strategic nuclear weapons
- Aircraft includes Su-24 Fencer-D and Tu-22M3 Backfire-C, short- and medium-range bombers
- More than a dozen nuclear-capable bomber bases in western Russia
- Example: Soltsy Air Base 230 km from Estonia
- 840th Heavy Bomber Regiment with Backfire bombers
- Satellite images reveal AS-4 Kitchen cruise missiles and nuclear weapons storage igloo

Russian Non-Strategic Forces



- Russia's navy is greatest user of non-strategic nuclear weapons, both in numbers and diversity
- Ships, submarines and anti-submarine aircraft in all fleets
- Cruise missiles (anti-ship and land-attack), anti-submarine rockets, torpedoes, depth bombs, mines
- Example: Vladivostok naval base in far eastern Russia
- Image shows Slava-class cruiser (SS-N-12, SA-N-20 SAM, depth bombs)
- Three Udaloy-I class destroyers (SS-N-14 cruise missile and depth bombs)

Russian Non-Strategic Forces



- Presidential Nuclear Initiatives promised to eliminate all nuclear warheads for ground forces
- This has been completed for artillery and mines, but some ballistic missile warheads remain: SS-26 Scarab (Tochka)
- The SS-26 Stone (Iskander), which is replacing the SS-21, might have nuclear capability but uncertainty remains

- SS-26 is not yet deployed in Kaliningrad region, but is deployed at Luga south of Saint Petersburg

Image: Military trucks that might be SS-21 or SS-26 launchers and support vehicles shipping in or out of Luga in 2010

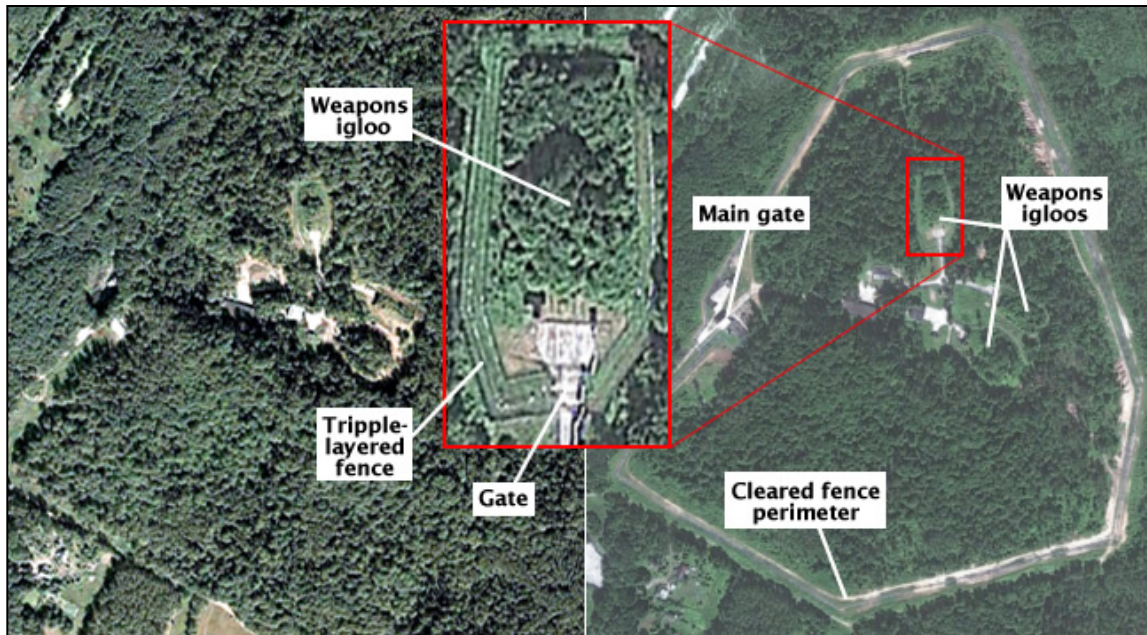


The Kaliningrad Region



- Frequent NATO claims of Russian deployment of non-strategic nuclear forces in Kaliningrad region
- Russian denials
- Confusion about “weapons” versus “warheads”
- Several nuclear-capable non-strategic weapon systems present:
 - Ships/submarines
 - Aircraft
 - Short-range ballistic missiles
 - Air- and coastal defense forces
- All nuclear-capable systems are leftovers from Soviet era

The Kaliningrad Region



- Satellite images show upgrade of apparent nuclear weapons storage facility in Kaliningrad region sometime between 2002 and 2010
- Clearing of site perimeter and improvement of fences
- Facility has features that are typical for Russian nuclear weapons storage sites, including three igloos surrounded by triple-fences
- Imagery reaffirms recent statement by Polish officials that Russia “had upgraded the infrastructure necessary for their [nuclear weapons] storage there.”
- Images or statements do not prove that there are nuclear *warheads* present

Conclusions

- Russia and the United States have drastically reduced their inventories of non-strategic nuclear weapons since the end of the Cold War. But significant inventories remain. Even without arms control agreements, the Russian non-strategic nuclear weapons inventory is likely to continue to decline significantly in the future. The United States appears to be moving toward elimination of designated non-strategic nuclear warheads in its stockpile.
- Unilateral reductions have been the most effective and only way to reduce non-strategic nuclear weapons since the end of the Cold War. Imperfect as they may be, that is still the case today.
- Excessive and outdated secrecy about non-strategic nuclear weapons inventories, characteristics, locations, missions and dismantlements have created unnecessary and counterproductive uncertainty, suspicion and worst-case assumptions that undermine relations between Russia and NATO.
- Because arms control efforts have been focused on strategic nuclear weapons, the role and composition of non-strategic nuclear weapons have been allowed to retain an aura of relevance that is out of tune with the today's security environment.
- Overemphasis on general security concerns among some eastern European governments is attributing an importance to U.S. non-strategic nuclear weapons in Europe that is not credible. Non-strategic nuclear weapons are neither the problem or the solution to these countries' security concerns.
- NATO's new focus on disparity between U.S. and Russian non-strategic nuclear weapons is inconsistent with post-Cold War unilateral reductions and grants Russian hardliners a veto against further reductions.
- Planned modernization of the B61 bombs and introduction of the F-35 Joint Strike Fighter will significantly increase the military capability of NATO's nuclear posture, which is incompatible with pledges made to reduce the role of nuclear weapons and not increase military capabilities.



Recommendations

- Russia and the United States must increase – unilaterally, bilaterally and multilaterally – the transparency of their non-strategic nuclear forces by disclosing overall numbers, locations, and declare which types of delivery vehicles have the capability to deliver nuclear weapons.
- Confidence-building measures should be taken that moves non-strategic nuclear weapons back from forward locations, establishes consultations on the role and status of such weapons and mutual visits to former and current nuclear weapons storage sites and bases.
- Russia and the United States should begin formal negotiations on a treaty to reduce non-strategic nuclear weapons, but should also continue unilateral initiatives and avoid making further reductions conditioned on reciprocity. Russian reductions and U.S. withdrawal should be goals, not preconditions for new initiatives.
- Russia should retire the SS-N-21 land-attack cruise missile in response to the U.S. decision to retire the nuclear Tomahawk land-attack cruise missile.
- Russia should complete elimination of nuclear warheads for ground forces and make a declaration to that effect.
- Russia should clarify the status of the Kaliningrad district and declare whether there are nuclear warheads present. If they are present, they should be withdrawn immediately.
- NATO should immediately phase out the nuclear sharing mission.
- The United States should declare, in consultation with its allies, that the mission of forward-deploying non-strategic nuclear weapons in Europe has been completed and begin preparations for their withdrawal.
- Compensation for reducing the number and role of non-strategic nuclear weapons must be done in a manner that does not increase concern and insecurity on the other side.