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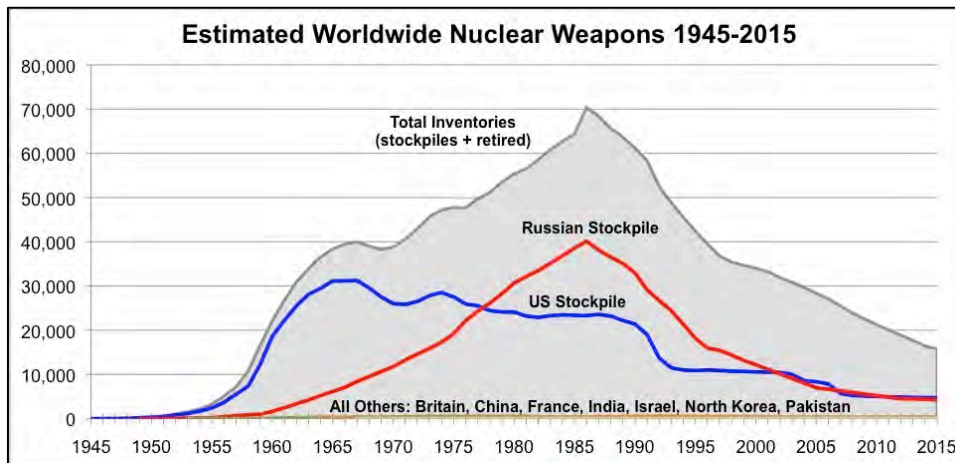
US Nuclear Deterrence Policy and Japan's Nuclear Policy

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Briefing to
GENSUIKIN
Tokyo
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History and Status



More than 125,000 warheads produced since 1945

Peak of 64,500 stockpiled warheads in 1986 (70,300 if including retired warheads)

- US stockpile peaked early (1967)
- Russian stockpile peaked late (1986)

Enormous reductions since 1986 peak:

- ~54,000 warhead stockpile reduction
- ~47,000+ warheads dismantled



~10,000 warheads in stockpiles (~16,000 if counting retired warheads awaiting dismantlement)

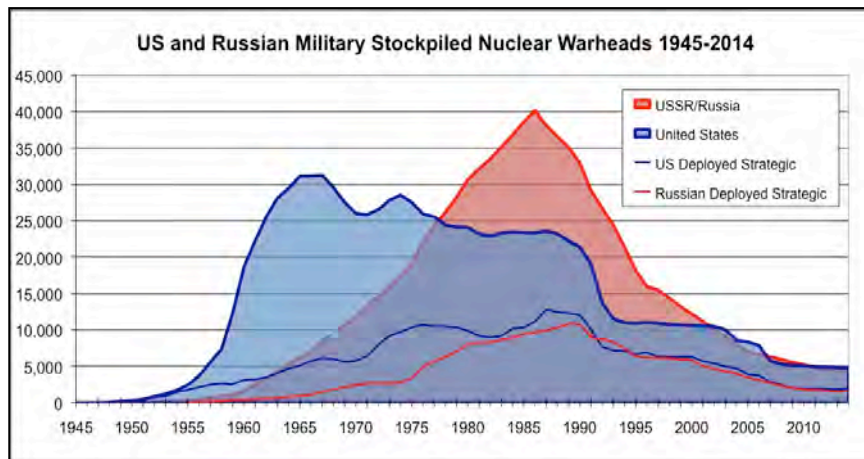
US and Russia possess 90% of global inventory (94% if counting retired warheads); **each has more than 4 times more warheads than rest of world combined**; 15 times more than third-largest stockpile (France)

Decreasing: US, Russia, Britain, France

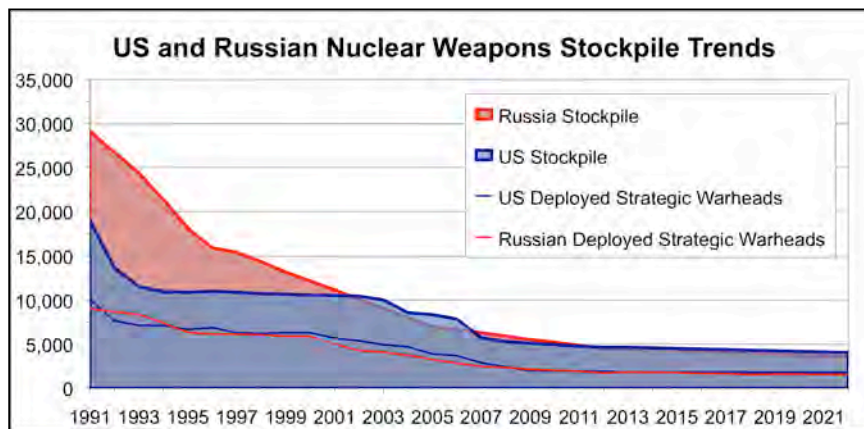
Increasing: China, Pakistan, India

Israel relatively steady; North Korea trying

US-Russian Arsenals



Note: retired, but still intact, warheads awaiting dismantlement are not shown



With more than 90% of world inventory, US and Russia have special responsibility to reduce

Reduction of deployed strategic warheads from some 23,000 in 1989 to 3,500 in 2014 (New START counts 3,285)

Readiness level of remaining strategic forces is high: about 1,800 warheads on prompt alert

No official de-alerting, but significant reduction of overall alert numbers: heavy bombers de-alerted, US ICBMs and SLBMs downloaded, non-strategic forces de-alerted

Trend: pace of reduction is slowing

US cut only 309 warheads in 2009-2013, compared with 3,287 warheads cut in 2004-2008

Russia cut an estimated 1,000 warheads in 2009-2013, compared with 2,500 in 2004-2008

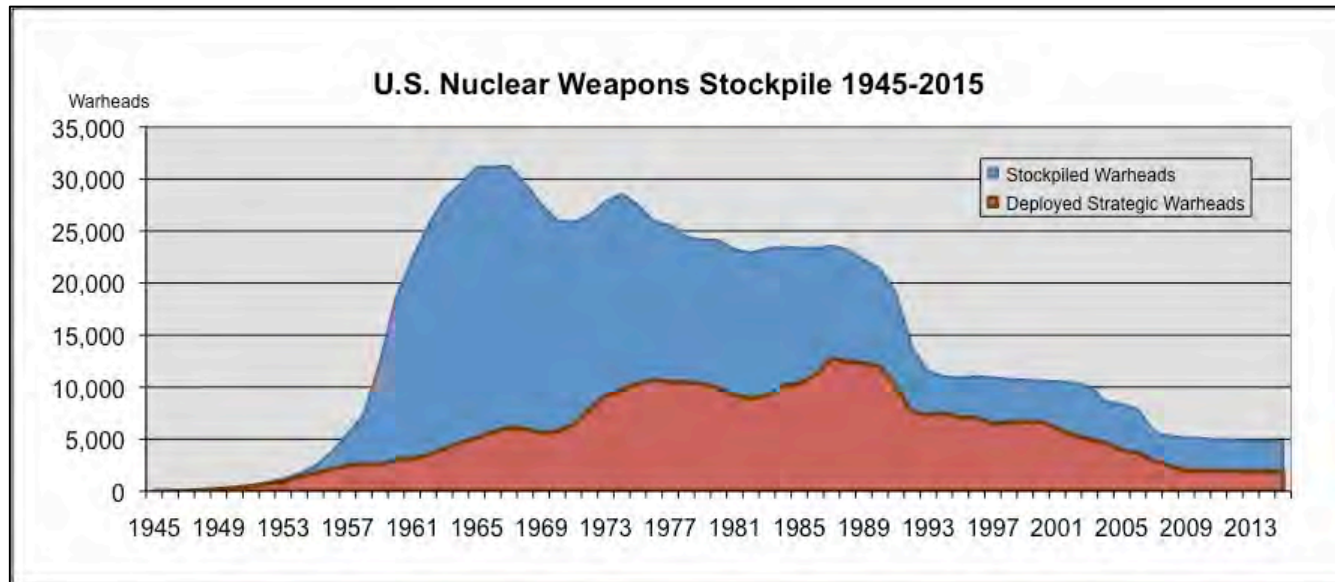
Instead of continuing pace or increasing reductions, US and Russian stockpiles appear to be leveling out for the long haul; new emphasis on modernization

New initiatives needed to prevent stalling of arms control

Estimated Worldwide Arsenals

Estimated Worldwide Nuclear Warhead Inventories 2015				
<u>Country</u>	<u>Deployed</u>	<u>Stockpiled</u>	<u>Retired</u>	<u>Inventory</u>
Russia	1,780	4,300	3,200	7,500
United States	2,080	4,760	2,340	7,100
France	240	300		300
China		260	low	260
Britain	120	215	low	215
Pakistan		120		120
India		110		110
Israel		80		80
North Korea		?		?
Total	4,220	10,145	5,540	15,685

Reducing Numbers



- Significant reductions in stockpile and deployed warheads compared with Cold War
- Stockpile peaked in 1967; deployed strategic warheads peaked in 1987
- Estimated stockpile of 4,760 warheads (1,750 strategic and 180 tactical warheads deployed)

Reducing Types

- Nearly all US non-strategic nuclear weapons have been eliminated
- Only a few hundred gravity bombs remain



Bomb



Torpedo



Rocket



GLCM



Collision: US cruise and Soviet frigate



Anti-submarine missile



Sea-launched cruise missile



Anti-aircraft missile



Artillery



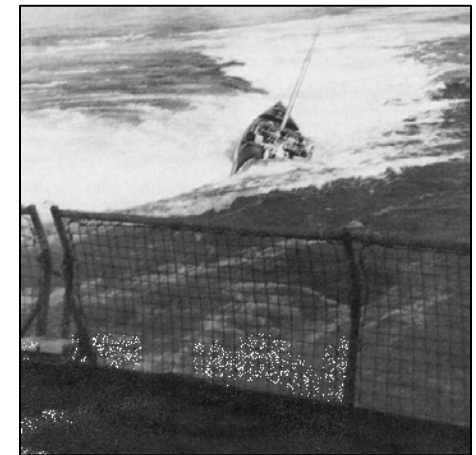
Mine



Short-range missile

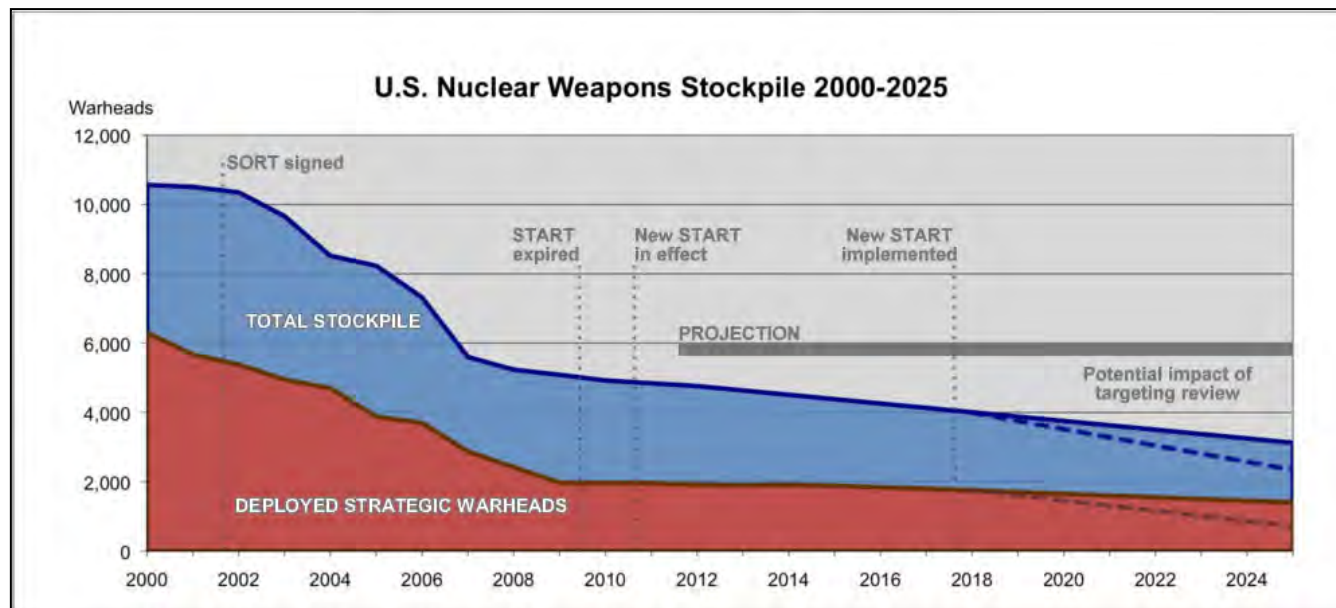


Depth charge



Collision: Soviet sub and US frigate

Reducing Numbers: Trend



- W Bush administration cut stockpile nearly in half by 2007
- Obama has cut ~500 warheads; the least of any post-Cold War president
- New START limit nearly achieved for warheads; not yet for delivery vehicles
- No significant stockpile reductions planned until 2030s

Intensions To Change

“To put an end to Cold War thinking, we will reduce the role of nuclear weapons in our national security strategy, and urge others to do the same.”

President Barack Obama, Prague, 2009 (emphasis added)

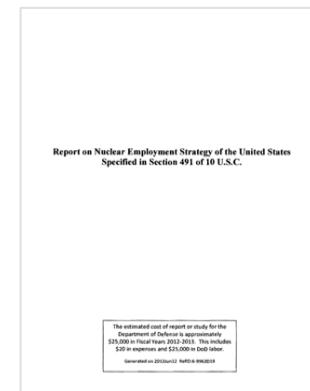


“It is possible that our deterrence goals can be achieved with a smaller nuclear force, which would reduce the number of nuclear weapons in our inventory as well as their role in U.S. national security strategy.”

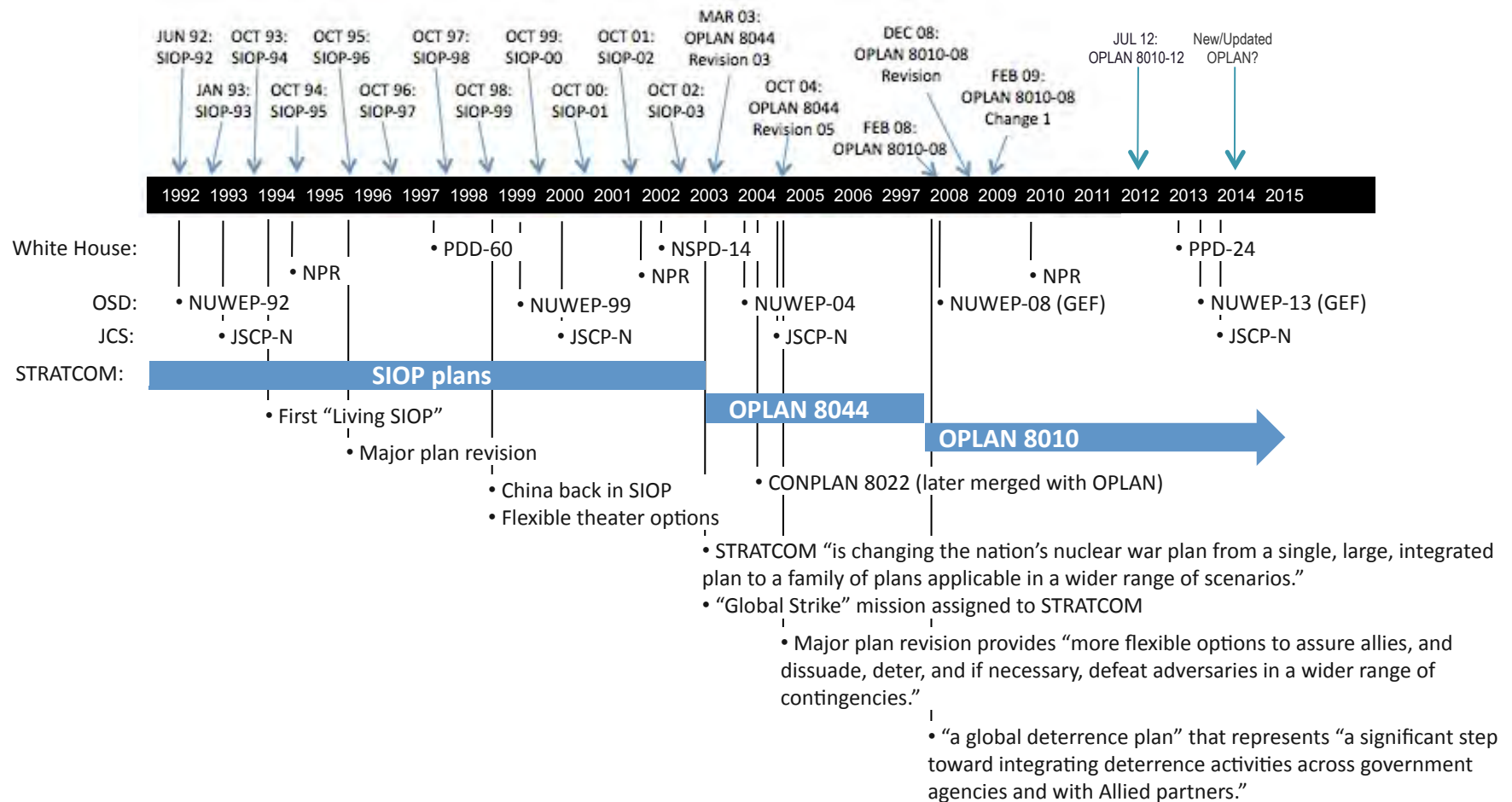
Sustaining US Global Leadership: Priorities for 21st Century Defense, DOD, 2012 (emphasis in original)

Directs DOD to “reduce the role of deterring nuclear weapons in deterring non-nuclear attack,” to “reduce the role of launch under attack,” and “reiterates the intension to work towards [the goal of making deterrence of nuclear attack the sole purpose of U.S. nuclear weapons] over time.”

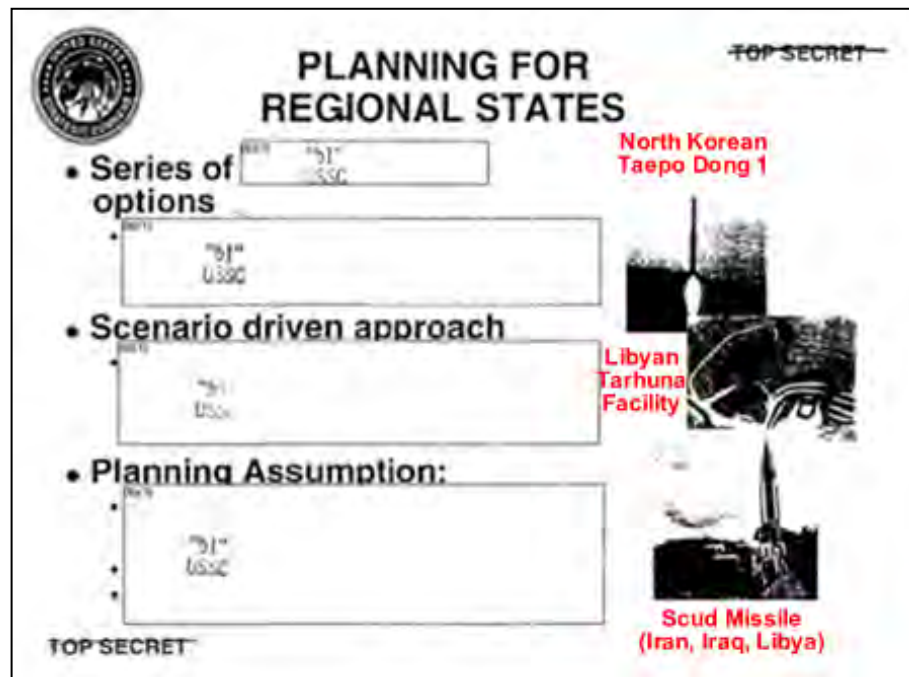
Report on Nuclear Employment Strategy of the United States, DOD, June 12, 2013



Recent Nuclear War Planning Developments




Wider Threat Horizon



Source: STRATCOM OPLAN 8044 Revision 03 briefing slide obtained by FAS under FOIA

- Clinton and W. Bush administrations broadened nuclear strategy
- Proliferation concern and 9/11 attacks triggered broadening of not only conventional but also nuclear planning to “regional states” armed with WMD
- Terminology changed from deterring “nuclear” adversaries to deterring “WMD” adversaries
- OPLAN 8044 Revision 03 included executable strike options against regional proliferators
- Based on NSPD-14 (2002)
- Effect: mission proliferation (do more with less); plan more complex

Smaller But Wider Strategic War Plan



OPLAN 8010 Background

SECRET

- OPLAN 8010 base plan approved Dec 07, including:
 - [REDACTED] (b)(1)
 - Nuclear force employment plans

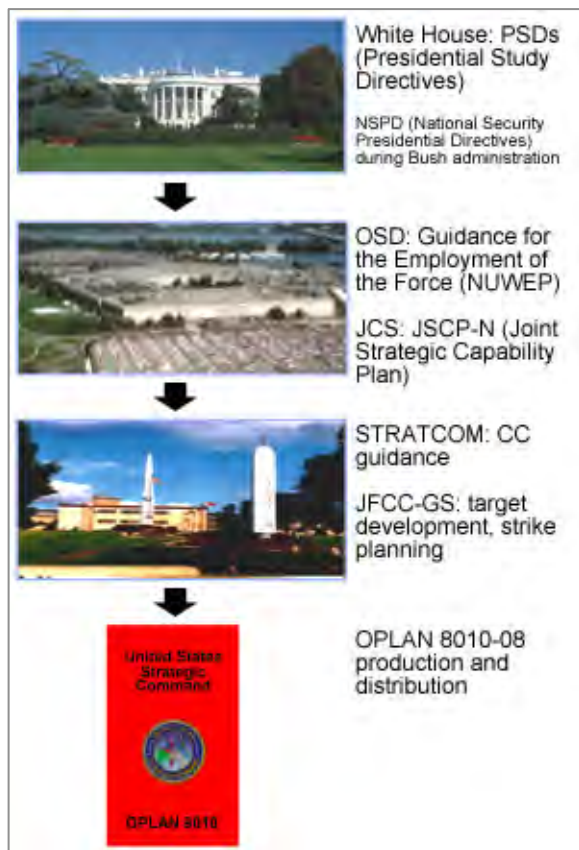
- Status of Adversary Appendices:

[REDACTED]	Next review forecasted [REDACTED] (b)(5)
[REDACTED]	Assumptions and concept approved [REDACTED] (b)(5)
[REDACTED]	Final review/approval scheduled [REDACTED] (b)(5)
[REDACTED]	Approval of assumptions and concept scheduled [REDACTED] (b)(5)
[REDACTED]	Approval of assumptions and concept forecasted [REDACTED] (b)(5)
[REDACTED]	Mission analysis in progress
[REDACTED]	Mission analysis in progress

Source: STRATCOM OPLAN 8010 briefing slide obtained by FAS under FOIA

- OPLAN 8010-12 (July 2012): Strategic Deterrence and Force Employment
- Directed against six adversaries. Probably Russia, China, North Korea, Iran, Syria and 9/11-type WMD scenario
- Half do not have nuclear weapons and four of them are NPT members
- Includes four types of nuclear attack options:
 - Basic Attack Options (BAOs)
 - Selective Attack Options (SAOs)
 - Emergency Response Options (EROs)
 - Directed/Adaptive Planning Capability Options
- There are no longer Major Attack Options (MAOs) in the nuclear war plan
- Base plan includes broader range of national power to achieve strategic effects

Nuclear War Plan Guidance



Presidential guidance is but first step in long process:

- April 2004: NUWEP-04 stated in part: “U.S. nuclear forces must be capable of, and be seen to be capable of, destroying those critical war-making and war-supporting assets and capabilities that a potential enemy leadership values most and that it would rely on to achieve its own objectives in a post-war world.”
- May 2008: NUWEP-08 Annex to Guidance for the Employment of the Force (GEF), which combines half a dozen previously separate guidance documents into one document
- June 2013: Obama administration’s nuclear weapons employment strategy (PPD-24) reaffirms counterforce, directs no reductions of force structure below New START, and retains current alert posture
- Informs new NUWEP (Annex to GEF) and JSCP-N
- Potential adjustments to OPLAN 8010-12

“[The] president’s direction to me was less than two pages; the Joint Staff’s explanation of what the president really meant to say was twenty-six pages.”

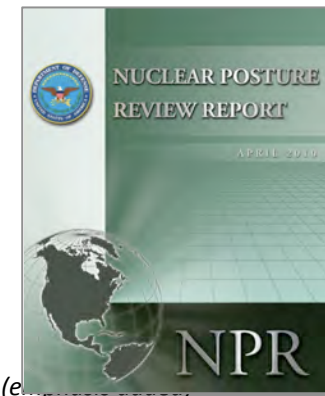
STRATCOM Commander Admiral James Ellis, June 18, 2004

Reducing Role of Nuclear Weapons

Administration says NPR reduced role of nuclear weapons:

- The review “reduces the role of nuclear weapons in our overall defense posture by declaring that the fundamental role of U.S. nuclear forces is to deter nuclear attack....Our new doctrine also extends U.S. assurances by declaring that we will not use or threaten to use nuclear weapons against non-nuclear weapons states that are members of the Nuclear Non-Proliferation Treaty and in compliance with their non-proliferation obligations.”

Thomas Donilon, March 2011 (e...)



...but also says that it can't reduce role yet because:

- “there remains a narrow range of contingencies in which U.S. nuclear weapons may still play a role in deterring a conventional or CBW attack against the United States or its allies and partners. The United States is therefore not prepared at the present time to adopt a universal policy that the ‘sole purpose’ of U.S. nuclear weapons is to deter nuclear attack on the United States and our allies and partners....”

Nuclear Posture Review Report, April 2010

Obama's Nuclear Guidance

Announced in June 2013, nuclear weapons employment strategy (PPD-24):

Changes

- Directs pursuit of one-third reduction in deployed strategic warheads
- States that US will only consider nuclear use in extreme circumstances
- Narrows nuclear strategy to focus on only 21st century objectives and missions
- Directs strengthening of non-nuclear capabilities and reduction of nuclear role in deterring non-nuclear attacks
- Directs reduction of role of Launch Under Attack in contingency planning
- Modifies hedging strategy for reserve warheads

Status Quo

- Reaffirms counterforce strategy, rejecting countervalue or minimum deterrence
- Reaffirms need for Triad and DCA
- Reaffirms need for geopolitical “hedge” of reserve warheads
- Directs no force structure reductions beyond New START
- Retains role of nuclear weapons against non-nuclear adversaries
- Retains Launch Under Attack capability
- Retains current alert posture

Obama's Nuclear Guidance

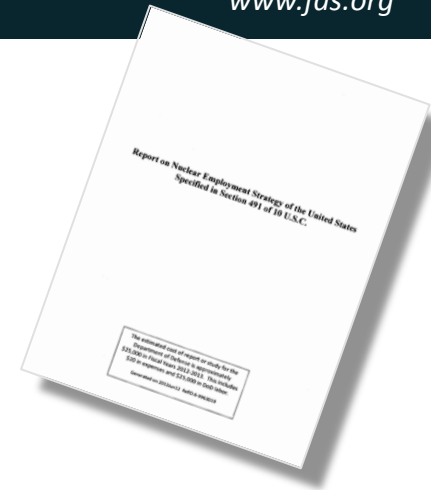
Preparation of PPD-24 included development of range of nuclear employment strategy options and analysis of each option's implication for nuclear force requirements and achieving U.S. and allied objectives if deterrence fails.

This effort appears to deepen the post-Cold War trend of increased nuclear focus on regional scenarios, particularly using nuclear weapons to deter escalation in regional conflicts and, if deterrence fail, defeating the adversary on conditions determined by the United States and its allies:

“The guidance narrows U.S. nuclear strategy by directing that planning should focus on only those objectives and missions that are necessary in the 21st century, including deterring nuclear use in escalating regional conflicts.

The regional deterrence challenge may be the “least unlikely” of the nuclear scenarios for which the United States must prepare, and continuing to enhance our planning and options for addressing it is at the heart of aligning U.S. nuclear employment policy and plans with today's strategic environment.”

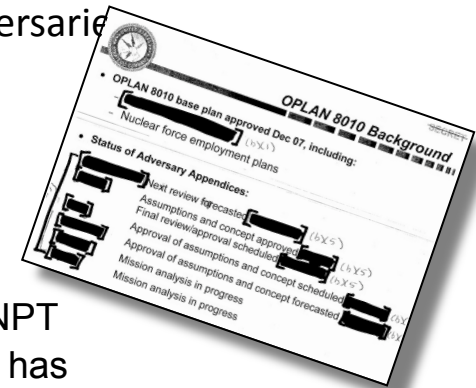
Elaine Bunn, DASD (Nuclear and Missile Defense Policy), OSD, March 5, 2014



Who Is Affected By Reduced Role?

Not evident “new doctrine” reduces nuclear planning against six adversaries in the current war plan beyond normal adjustment:

Adversary	Not affected by “reduced role” because:
Russia	it has nuclear weapons
China	it has nuclear weapons
North Korea	it has nuclear weapons and has withdrawn from the NPT
Iran	it is not considered in compliance with the NPT and it has WMD capabilities
Syria	it is not considered in compliance with the NPT and it has WMD capabilities
9/11 scenario	involves non-state actor (not member of NPT) acting alone or in collusion with “rogue” state not in compliance with/ member of NPT

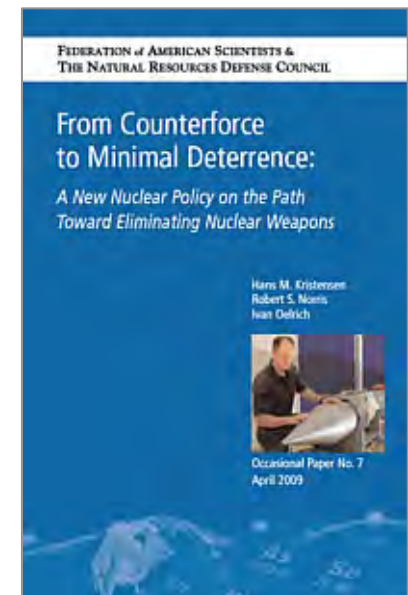


President Obama said in Hankuk University speech in March 2012: “We’ve narrowed the range of contingencies under which we would ever use or threaten to use nuclear weapons.”

Options For Reducing Role Further

“Putting an end to Cold War thinking” will require more than trimming edges of posture but changing core planning assumptions and principles against Russia and China:

- Reduce the number or scope of target categories
- Reduce requirement for warhead damage expectancy in strike options
- Reduce number of strike options
- Reduce or remove prompt launch requirement for ICBMs
- Remove SSBNs from alert, modify deployments
- Reduce or remove requirement to plan for damage-limitation strikes
- Limit role to deter nuclear attack; “we have committed to take concrete steps to make nuclear use the sole purpose of our nuclear forces.”
Thomas Donilon, March 2011
- Limit or end counterforce and force-on-force warfighting planning;
“Counterforce is preemptive, or offensively reactive.”
DOD, Counterproliferation Operational Architecture, April 2002
- Limit posture to secure retaliatory capability: core deterrence



The Allied Effect

- Extended deterrence commitments play prominent role in US nuclear declaratory policy, mission and strategy, modernizations
- B-2 and B-52H rotational deployments to Guam are partly nuclear extended deterrence mission
- Northeast Asian and NATO allies influence nuclear weapons procurement and posture:
 - Japanese officials lobbied actively against retirement of TLAM/N
 - New B61-12 guided standoff bomb will have mission in Northeast Asia; extended deterrence prominent part of justification
 - New nuclear F-35A is explicitly justified by extended deterrence mission; would not be funded without Northeast Asia and NATO missions
 - New air-launched cruise missile (LRSO) partly focused on regional, limited deterrence and escalation scenarios in Northeast Asia
- Remember: extended is not only *nuclear* – in fact, it is mostly not nuclear



New Focus: Modernization

ICBM

- Minuteman III life-extension completing
- Warhead fuzes/interoperable warhead planned
- GBSD (ICBM replacement) in development

SSBN / SLBM

- Trident II D5 SLBM life-extension development
- SSBN replacement development (12 planned)
- W76-1 warhead life-extension deploying
- W88-1 warhead life-extension development

Bombers

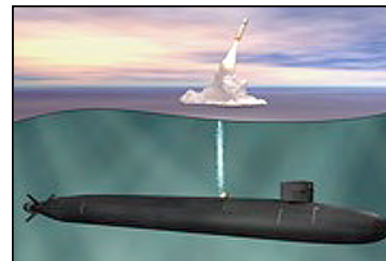
- Upgrade of B-2 and B-52 underway
- LRS-B next-generation bomber in development
- B61-12 guided standoff bomb in development
- LRSO (ALCM) replacement in development

Tactical

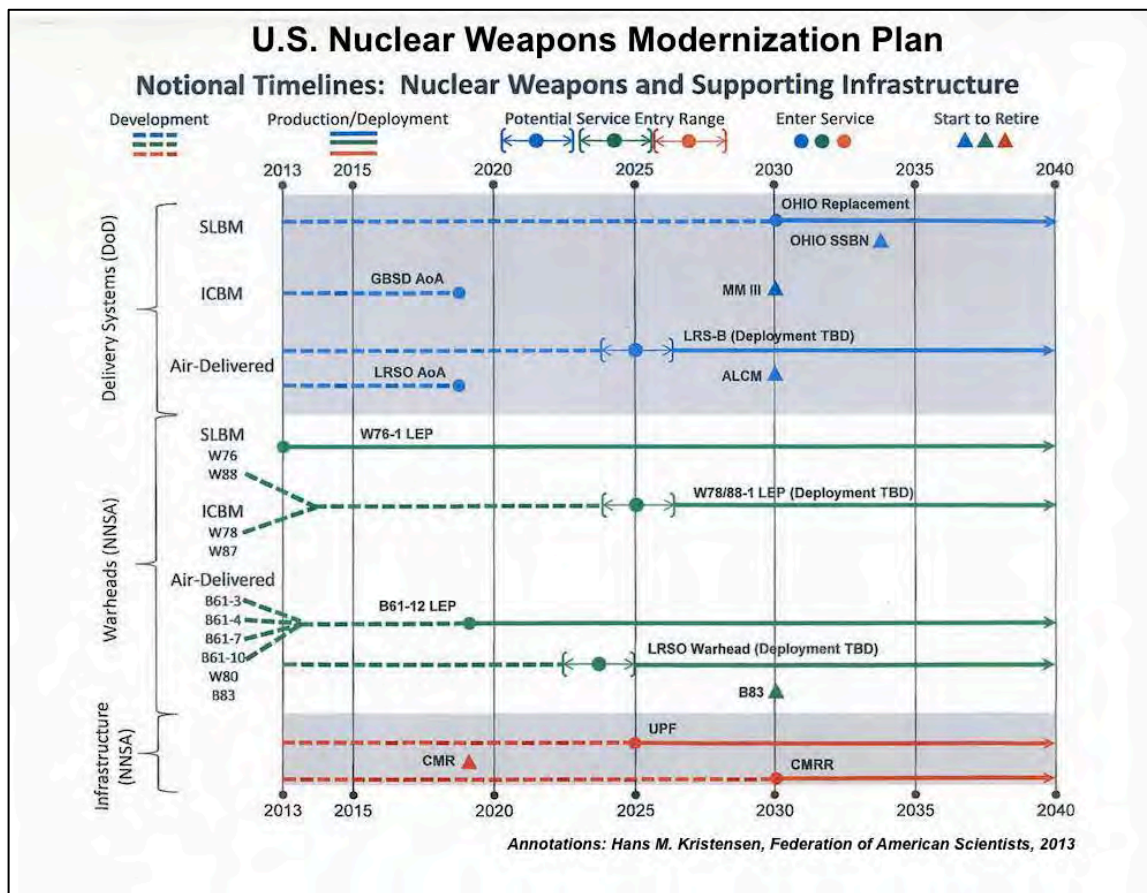
- F-35A nuclear capability in development
- B61-12 guided standoff in development

Infrastructure

- Uranium Processing Facility (secondaries) construction
- Plutonium production facilities (primaries) construction
- Warhead surveillance/simulation facilities upgrade



Broad Modernization



Next 10 years:

\$350 billion for maintaining and modernizing nuclear forces and infrastructure

Comprehensive modernization:

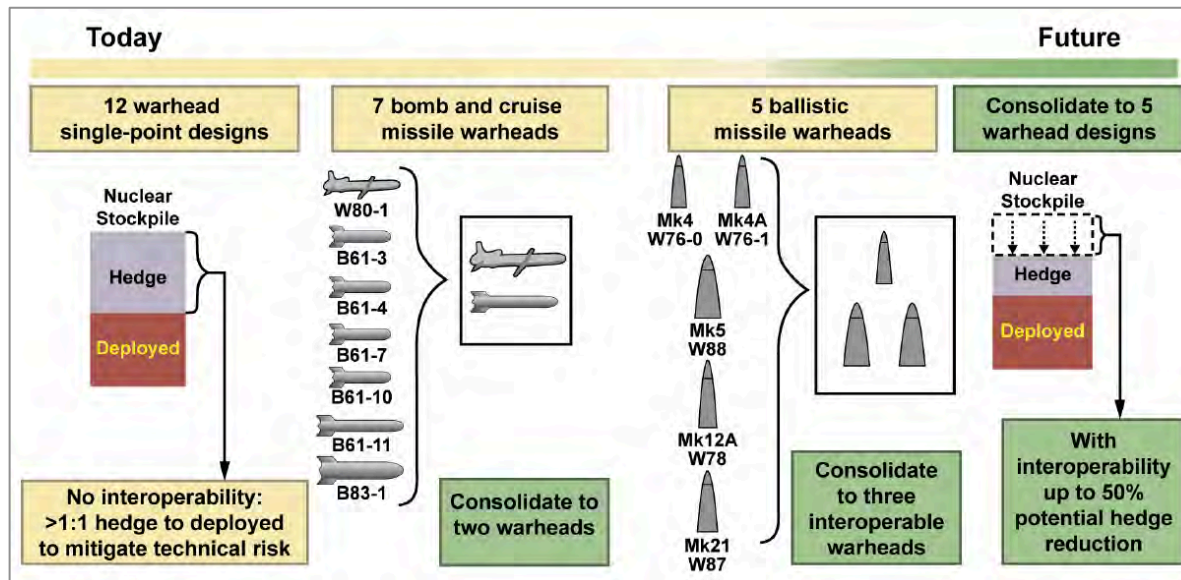
- All three legs of strategic triad
- Tactical dual-capable aircraft
- Warhead production complex

Consolidation and modification of warhead types

Some delays happening; more expected

Extending nuclear deterrent through 2080

Warhead Modernizations



Alleged advantages:

- Fewer warhead types permit reduction of hedge
- Modified warheads with increased safety, use control, and performance margin
- Fewer warheads will be cheaper to maintain and deploy

Possible risks:

- Modified warheads further from tested designs; reliability issues?
- Reduced stockpile diversity
- Complex and expensive programs prone to delays and cost overruns
- Modified warheads “new”?
- Costs highly uncertain and estimates probably underrated

Fundamental questions:

- Why is hedging necessary for missile warheads but not bomber weapons?
- Why must US hedge when Britain and France do not?
- Why is “deployed” warheads the same in the future?

3+2 strategy: reduction from 12 warhead versions (8 basic designs) to 5 types:

3 “Interoperable” or “adaptable” warheads on ICBM and SLBM
 IW-1 (W78/W88-1), IW-2 (W87/W88-1), IW-3 (W76-1)

2 non-interoperable warheads on bombers and fighters
 ALCM (LRSO) with W80-1 or W84
 B61-12 guided standoff bomb

Conclusions and Recommendations

- US nuclear warheads and weapon types reduced significantly since Cold War
- Pledge: reduce numbers/role and “put and end to Cold War thinking”
- Reality: reduced the least of any post-Cold War president; reaffirmed importance of nuclear weapons; recommitted to existing Triad, non-strategic weapons; forward deployment continues in Europe; counterforce strategy continues; weapons on high alert continue
- Trend: reductions slowing (not just US)
- Future reductions possible from reorganization of posture, warhead life-extensions
- Broad modernization underway
- Extended deterrence and allied wishes play significant role in nuclear posture/modernization plans