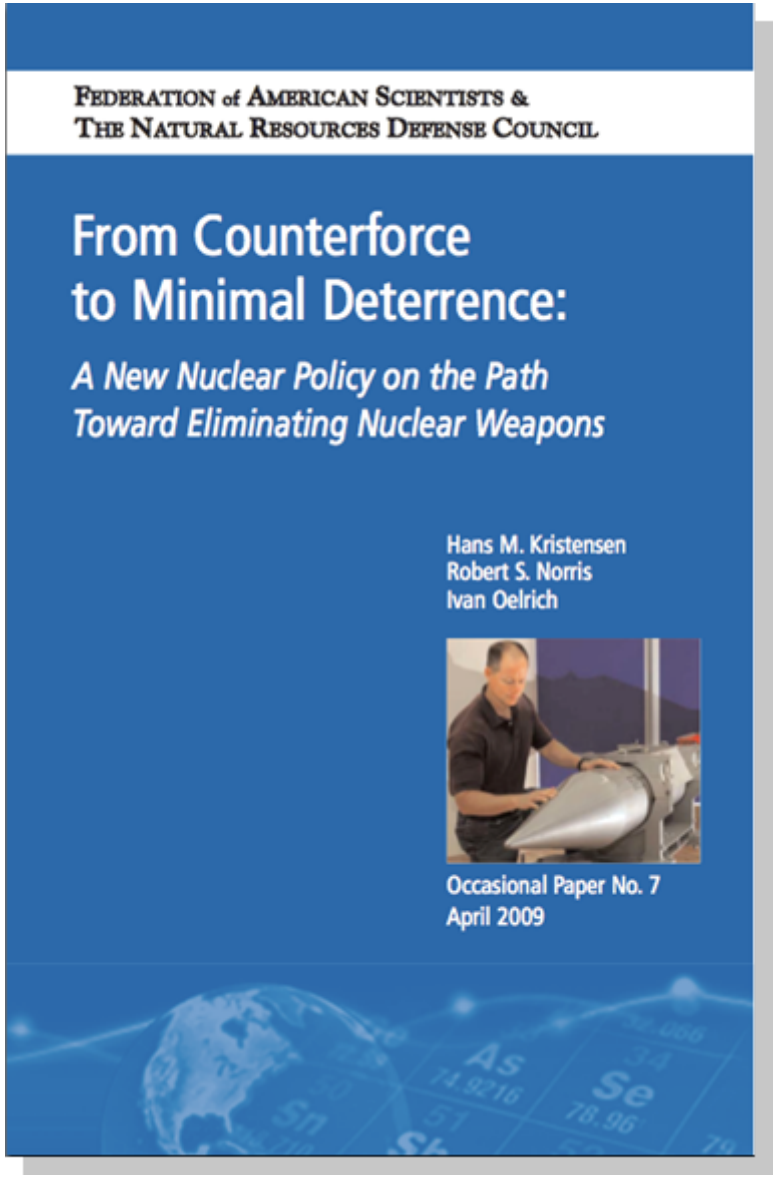

From counterforce to minimal deterrence

Briefing to
MORS nuclear online workshop

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Full report is available at
http://www.Fas.Org/pubs/_docs/occasionalpaper7.Pdf

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Presidential Context

Two decades after the end of the Cold War, President Barack Obama has set the United States on a new nuclear path (Prague speech):

- "seek the peace and security of a world without nuclear weapons"
- "ignore the voices who tell us that the world cannot change"
- "take concrete steps towards a world without nuclear weapons"
- "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."
- A follow-on agreement to START "will set the stage for further cuts, and we will seek to include all nuclear weapons states in this endeavor."

Yet at the same time:

- "As long as these weapons exist, the United States will maintain a safe, secure and effective arsenal to deter any adversary, and guarantee that defense to our allies"

How should U.S. nuclear policy change to help facilitate this transition?

Today's Nuclear Posture

U.S. Nuclear Forces 2009

Weapons Category	Estimated Warheads
Operational	*2,700*
Strategic	2,200
Tactical	500
Reserve	*2,500*
Total Stockpile	**5,200**
Awaiting Dismantlement	4,200
Total Inventory	**9,400**

Nuclear Planning

Strategic war plan: OPLAN 8010-08 Strategic Deterrence and Global Strike (December 2008)

Contains a "family of plans" against six adversaries: China, Iran, North Korea, Russia, Syria, 9/11-type threats

Compared with SIOP, OPLAN 8010 "provides more flexible options" for "a wider range of contingencies."

Includes nuclear and conventional weapons.

Nuclear Deterrence Overcapacity

The current nuclear posture – even if reduced to 1,000-1,500 operationally deployed strategic warheads – has enormous overcapacity beyond what is needed for basic nuclear deterrence.

- 1979 OTA study used seven Poseidon missiles with 64 40-kt warheads and three Minuteman III ICBMs with nine 170-kt warheads to attack 24 Soviet oil refineries and 34 petroleum storage sites. The 73 weapons destroyed 73 percent of the Soviet petroleum refining capacity and 16 percent of Soviet storage capacity. Many of the refineries were in or near cities and thus between 836,000 and 1,458,000 people were killed, depending upon whether the people were in single or multistory buildings. Injuries would total an additional 2.6 to 3.6 million people.
- "Destroying 73 percent of refining capacity would force the economy onto a crisis footing, curtailing choices and consumer goods, dropping the standard of living from austere to grim and setting back Soviet economic progress by many years."

OTA, *The Effects of Nuclear War*, May 1979

Cold War-Like Nuclear Targeting

Current nuclear targeting policy is based on guidance and planning assumptions that are deeply rooted in Cold War warfighting mentality:

- *NUWEP 04*: "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.*"*
- Nuclear doctrine examples from *Deterrence Operations JOC, Dec. 2006:*
  - "Nuclear weapons threaten destruction of an adversary's most highly valued assets, including adversary WMD capabilities, critical industries, key resources, and means of political organization and control (including the adversary leadership itself). This includes destruction of targets otherwise invulnerable to conventional attack, e.g., hard and deeply buried facilities, 'location uncertainty' targets, etc."
  - Nuclear weapons "allow the US to rapidly accomplish the wholesale disruption of an adversary nation-state with limited US national resources."
  - Nuclear weapons can also "constrain an adversary's WMD employment through US counterforce strikes aimed at destroying adversary escalatory options."

Mirrors Cold War targeting policy at lower levels.

Mission Creep

Although end of Cold War resulted to significant changes in guidance, targets, and weapons requirement, proliferation fear and 9/11 led to wider targeting:

- Expansion from deterring nuclear attack to deterring WMD
- Expansion from deterring Russia and China to deterring six adversaries

Declaratory policy is very broad:

> "the United States has made clear for many years that it reserves the right to respond with overwhelming force to the use of weapons of mass destruction against the United States, our people, our forces and **our friends** and allies. Additionally, the United States will hold any state, terrorist group, or other non-state actor fully accountable for supporting or enabling terrorist efforts to obtain or use weapons of mass destruction, whether by facilitating, financing, or providing expertise or safe haven for such efforts."
>
> *Stephen Hadley, remarks to CISAC, February 8, 2008 (emphasis added)*

"New Triad" philosophy blurs distinction between nuclear and non-nuclear weapons and missions making it more difficult to signal clearly who is intended to be deterred with what and for what purpose.

Cold War-Like Deterrence Requirements

Main justification for nuclear forces is “deterrence” but deterrence is rarely defined, except implicitly by assumptions carried over from the Cold War.

Deterrence by threat of retaliation is simple: must be able to threaten enough pain to make seizing a prize seem like a bad deal.

During the bi-polar, ideological Cold War, the prize was the future of the world and the pain required was near-total, hence “assured destruction.” The level of pain needed today is tied to the much lower *stakes* in play today.

During Cold War, *only* nuclear weapons could threaten necessary levels of pain, thus the persistent unstated equivalence of deterrence and *nuclear* deterrence. Today, conventional weapons are more effective and the pain requirements are lower, so conventional weapons alone may be adequate.

When determining deterrence requirements today, always ask: who is being deterred? What action is being deterred? What are the stakes involved? What deterrence mission cannot be met by non-nuclear means?

Minimal Deterrence

A new nuclear targeting policy is needed in the transition period where the United States and Russia move toward deep cuts. Minimal Deterrence would retain a basic secured nuclear retaliatory capability to deter nuclear attack, yet:

- Reduce missions for nuclear weapons to deterring nuclear use only
- Remove planning for first-strikes
- Constrained second-use policy
- No nuclear forces on alert
- Separation of nuclear and conventional forces

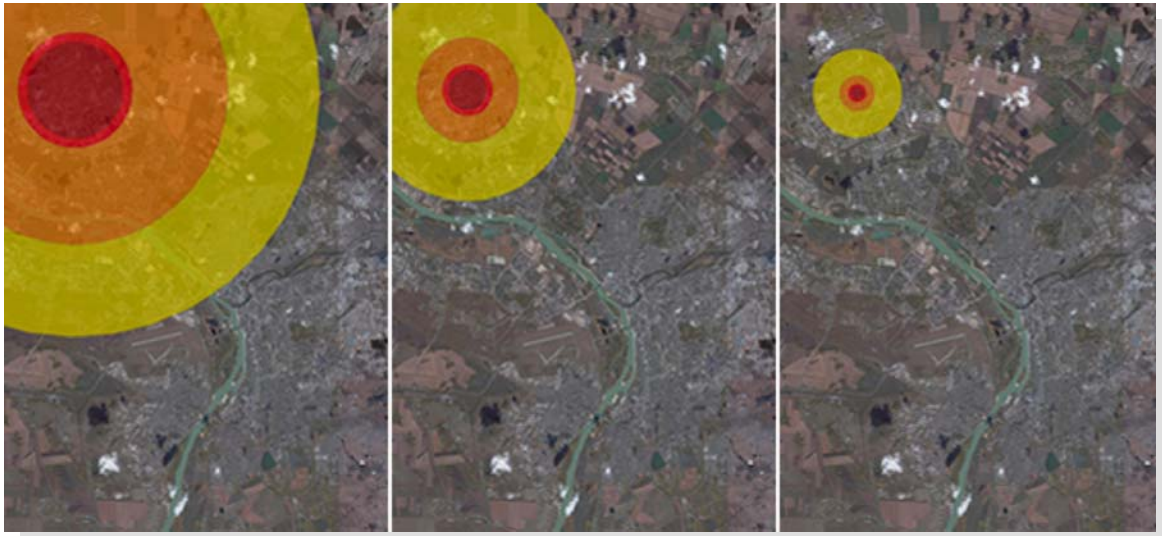
Objective of Minimal Deterrence is to “turn off” Cold War dynamic that continues to generate unnecessarily offensive postures and high requirements for capability and operations for both American and Russian forces.

Nuclear deterrence must be separated from warfighting. A Minimal Deterrence seeks no “advantage” or damage limitation in strike scenarios, only a secured retaliatory capability.

Minimal Deterrence creates a stable resting spot that minimizes the salience and danger of remaining nuclear weapons and allows all of the world’s disparate nuclear powers to come into a stable equilibrium before moving to the last step or denuclearization.

Nominal Target Set

We examined 12 nominal industrial targets in Russia by using HPAC to calculate estimated damage and casualties caused by nuclear weapons of different yield on nearby population centers. To minimize civilian casualties to the extent possible, we chose the optimum Height-of-Burst (HOB) and lowest possible yield to destroy the facilities. The following example shows attack calculations on the Omsk Refinery in southerwestern Siberia:



Yield:	300 kt (5,603 ft HOB)	30 kt (2,402 ft HOB)	3 kt (343 ft HOB)
Fatalities:	86,086	14,448	6,775
Casualties:	336,602	73,408	9,757

Minimal Deterrence, not City Busting

Part of the response to our study has been that Minimal Deterrence and the targeting of industrial infrastructure facilities would drive U.S. toward city busting and significantly more collateral damage. This is not correct because:

- Our targeting proposal explicitly avoids targeting cities.
- Current counterforce targeting already accepts significant civilian casualties.
- Previous and current counterforce targeting policy also threatens destruction of an adversary's "critical industries" and "key resources."

  Deterrence Operations JOC, Dec. 2006, p. 40.
- Current targeting doctrine states that "threatened use of Global Strike will be more effective to the degree that both US and adversary decision-makers believe the effects can be achieved without inflicting significant collateral damage."

  Deterrence Operations JOC, Dec. 2006, p. 40.

Relaxing Nuclear Requirements

A Minimal Deterrence posture would permit relaxation of warhead requirements. With no requirement to destroy hardened silos or underground structures, simple adjustments to the “legacy warheads” would me more than adequate to carry out the new targeting policy.

- About one-third of the warheads in current stockpile already have low-yield options (B61, W80, B83).
- Others (W76, W78, W87, W88) can get it by disabling the secondary, leaving them either with a boosted fission or pure fission option.
- No new warheads would be needed. Performance margins could be relaxed.

Pressure for new or enhanced warheads would ease. Opens up new possibilities for reducing posture and deployments.

Minimal Deterrence supports President’s goal of the United States taking “concrete steps towards a world without nuclear weapons,” “put an end to Cold War thinking,” “reduce the role of nuclear weapons in our national security strategy,” and not authorizing new nuclear weapons.

Questions?

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