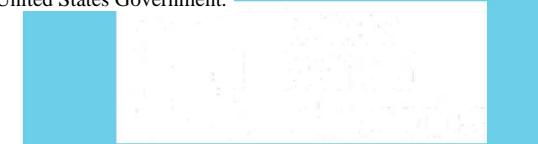
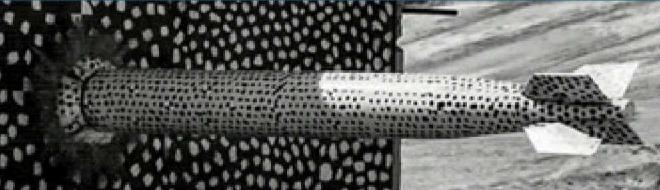


Standoff Over the LSRO: Assessing the long-range stand-off missile's impact on strategic stability



PRESENTED BY

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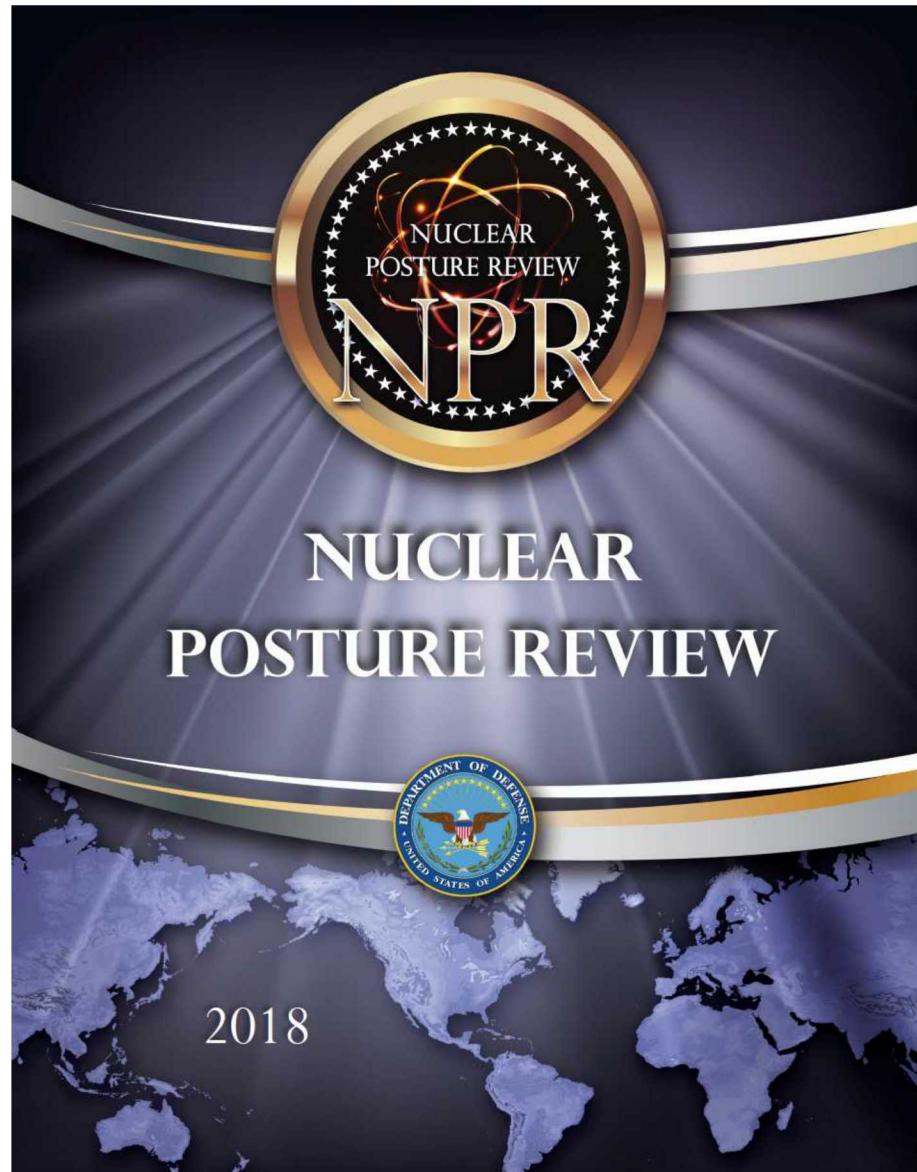
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State of the U.S. Nuclear Weapons Enterprise

There is consensus the United States needs to recapitalize its Nuclear Weapons Enterprise in order to maintain *stable deterrence*.

However, there is considerable debate over some systems comprising the modernization effort:

- **The Long-Range Stand-off Missile (LRSO)** has been proposed to replace the aging air-launched cruise missile (ALCM)
- The 2018 Nuclear Posture Review (NPR) proposed two non-strategic nuclear **“supplementary capabilities”**
 1. Modified (low-yield) submarine-launched ballistic missile (SLBM)
 2. Modern sea-launched cruise missile (SLCM)



What is the long-range stand-off (LRSO) missile?

- A nuclear air-launched *cruise missile*
- Air-launched cruise missiles...
 - Are launched from military aircraft platforms.
 - The current ALCM is released from the B-52H aircraft.
 - The proposed LRSO may be released from B-52H, B-2A, and B-21 aircraft.
 - Fly guided, low-altitude trajectories at nominally constant speed.
 - Are capable of striking precisely from long distances.
 - Allow defense planners to hold distant, high-value targets at risk while reducing the risks to pilots' lives particularly in denied airspace.
 - Are flexible, recallable, potentially serve as a hedge against failure in either of the other two legs (sea and land) of the triad.
 - Are not susceptible to anti-ballistic missile systems.



Current AGM-86B (ALCM) on B-52H (Image Credit: U.S. Air Force)

Highlights from the debate on LRSO

“Because they can be *launched without warning* and *come in both nuclear and conventional variants*, cruise missiles are a uniquely destabilizing type of weapon.” –William J. Perry and Andy Weber

“Beyond deterrence, an LRSO-armed bomber force provides the president with uniquely *flexible options* in an extreme crisis.” –Under Secretary of Defense Frank Kendall

“The LRSO would be a *new nuclear weapon*...We are convinced that the LRSO creates *unnecessary risks of miscalculation in a conflict*, lowers the threshold for nuclear use, is not necessary to preserve nuclear deterrence and will draw scarce resources away from other nuclear assets and advanced conventional capabilities.” –Senator Dianne Feinstein and Representative Adam Smith

Senator Ed Markey described the LRSO as a “*dangerous new nuclear weapon*.”

Note: Emphasis added by the presenter

What is Strategic Stability? – Joint Statement of [June] 1990

“Strategic stability was understood as such a balance of strategic forces of the USSR and the U.S. (or such state of the two powers’ strategic relations) where there were no incentives for a first-strike.”

–United States and Soviet Union/Russian Federation in the U.S.-Soviet Joint Statement on the Treaty on Strategic Offensive Arms of 1990

What is Strategic Stability? – American Perspectives

Traditional American Perspective – Derived largely from the seminal work of Thomas Schelling

- *Crisis stability*: “[The absence of perceived or actual incentives] to use nuclear weapons first out of the fear that the other side is about to do so.”
- *Arms race stability*: “The absence of perceived or actual incentives to augment a nuclear force—qualitatively or quantitatively—out of the fear that in a crisis an opponent would gain a meaningful advantage by using nuclear weapons first.”

One Contemporary American Perspective – Articulated by Elbridge Colby

- “Strategic stability should be understood to mean a situation in which no party has an incentive to use nuclear weapons save for vindication of its vital interests in extreme circumstances...As in the classic understanding of first-strike stability, a stabilizing force posture should both be demonstrably survivable and exhibit restraint such that an opponent does not fear excessively for the effectiveness of his retaliatory capability.”

What is Strategic Stability? – Russian and Chinese Perspectives



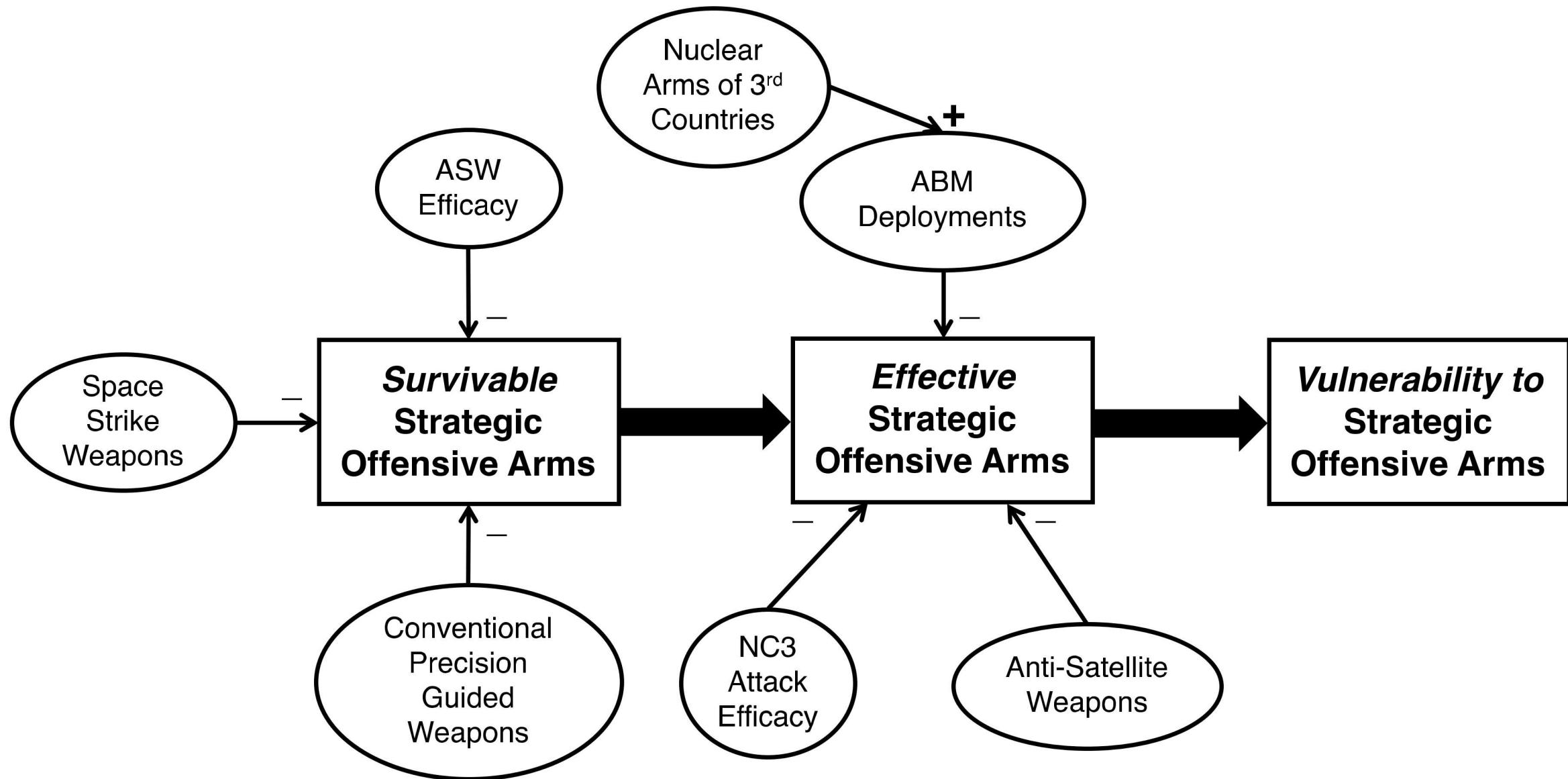
Russian Federation

- *Narrower view*: Strategic Stability is state of “rough parity” between the U.S. and Soviet/Russian military potentials.
- *Broader view*: Strategic Stability encompasses the collective “political, economic, military, and other measures implemented by the states.”

People’s Republic of China

- *Broader view* encompassing “the broader strategic environment.”
 - Nuclear weapons are only one element affecting the bilateral, strategic relationship between Great Powers
 - Advocate for “Grand Strategic Stability” with the goal of “long-term cooperation.”
 - Stable nuclear deterrence
 - Cooperation on nuclear nonproliferation
 - Interdependence in civilian nuclear energy
- Call for statements of U.S. intent, a bilateral no-first-use policy, and formal acceptance of mutual vulnerability with China as the basis for Strategic Stability.

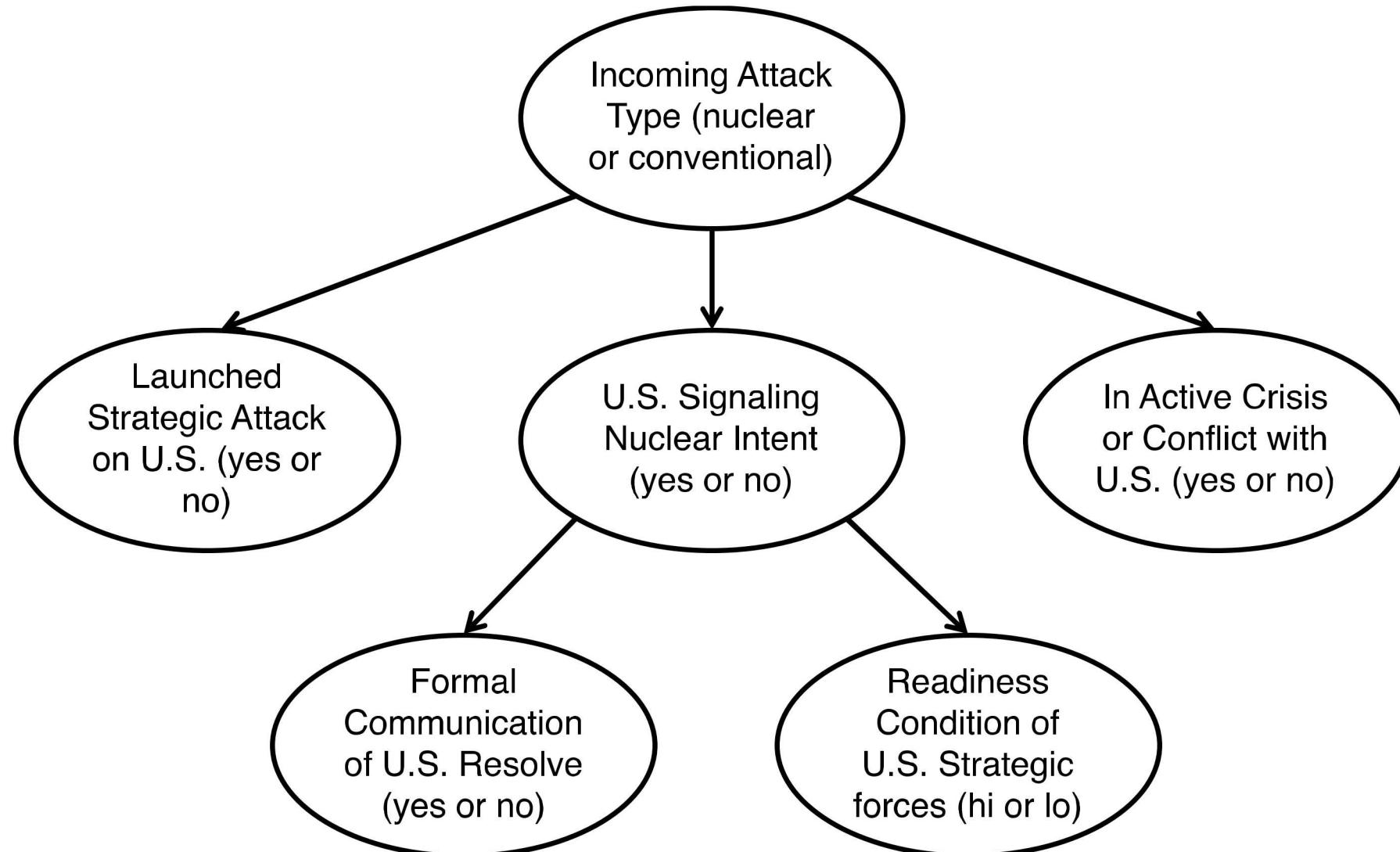
Factors affecting Strategic Stability are related



9 Does the LRSO threaten Strategic Stability by enabling the United States to successfully execute a disarming first-strike?

- The air leg of the strategic nuclear triad was afforded special counting rules under New START because it is believed to be the least destabilizing leg of the triad.
 - Neither Russia nor the United States maintain their bomber forces on day-to-day alert.
 - Current U.S. strategic bombers (B-52H, B-2A) fly at sub-sonic speeds requiring multiple hours for intercontinental flight in stark contrast to ballistic missiles with much shorter flight times.
 - Bomber range limitations require aerial refueling (from non-stealthy, tanker aircraft) or basing proximate to theatre.
 - Collectively these create relatively *long delay times* and *rich signature sets*
- According to Franklin Miller, former National Security Council staff, neither U.S. nor Russian doctrine regards the air-delivered leg as a first-strike weapon.

How might another State interpret an airborne U.S. bomber: nuclear or conventional?



Parting thoughts

- The LRSO would not be expected to disrupt mutual vulnerability.
- It is unlikely the LRSO could be launched against a peer or near-peer nation-state without warning.
- To the extent that a nuclear armed air-launched cruise missile deters would-be U.S. adversaries from nuclear use, maintaining a *survivable* weapon system is crucial for maintaining that stable deterrent effect.
- The concept of limited nuclear use is still intensely debated, and there is no guarantee that escalation could be controlled even with tailored LRSO employment.
- The challenge of warhead discrimination has not historically led to a nuclear response to a conventional cruise missile launch, but there is no guarantee that cannot change.