

IMPROVING NUCLEAR STRATEGIC STABILITY THROUGH A RESPONSIBILITY-BASED APPROACH¹ A Platform For 21st Century Arms Control

By John Gower

Background

We face within 5 years, for the first time since the mid-1970s, a world without formal arms control agreements, either nuclear or conventional, between Russia and the United States. The optimism following the 2009 Prague speech, the 2010 U.S. Nuclear Posture Review (NPR) and the NATO Strategic Concept of the same year has faded, as have the hopes of reducing the salience of nuclear weapons in international security policy. Into a nadir of trust has stepped an increasingly unpredictable U.S. administration and the nuclear capability trajectories of the main powers have lurched upward. A new and hostile nuclear power has emerged on the US Pacific flank. Nuclear Strategic Stability² is increasingly at risk.

The world faces three simultaneous and interlocking challenges:

The first is the increasing **risk of misunderstanding and misinterpretation** which could escalate into nuclear employment from a serious conventional conflict or from an initial nuclear miscalculation. This risk is being fuelled by a far more challenging communications environment and the resurgence of dual-capable and less-than-strategic capabilities which risk lowering thresholds and increasing likelihood of use, allied to escalating “broader use” rhetoric. Adding to this mix are emerging technologies and novel conventional capabilities with entangling strategic effect and the possible accelerating complicators of machine learning and AI in the nuclear and associated domains.

Second is an **incipient new arms race**, in both these destabilising less-than-strategic systems and in new types of nuclear weapon (including trans-oceanic underwater “cruise” bodies, hypersonic weapons, and nuclear-powered cruise missiles) designed to gain an “upper hand” or redress a perceived imbalance across deterrence domains (e.g. nuclear vs. missile defence). Equally challenging to stability would be any further asymmetry in vulnerability;

Third is this **lack of Arms Control agreements** leading to a continuing erosion of trust and a regression to the worst days of Cold War. This has been made more urgent and significant by the collapse of the Intermediate-Range Nuclear Forces (INF) Treaty with nothing to replace it, and seemingly no will to engage meaningfully from any of the stakeholders.

¹ This is an updated version of a paper published by the Council on Strategic Risks on 7 Jan 2019:

<https://councilonstrategicrisk.files.wordpress.com/2019/01/improving-nuclear-strategic-stability-through-a-responsibility-based-approach-briefer-1-2019-01-7.pdf>

² There has been significant discussion on what constitutes broader Strategic Stability and to date no significant international agreement has been reached on a definition. A tighter metric: “**Nuclear Strategic Stability**” is proposed and defined in this note.

BOUNDING ASSUMPTIONS TO THIS PAPER

- That the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) survives the dual pressure of the so-called ban treaty (Treaty on the Prohibition of Nuclear Weapons, or TPNW) and emergence of Democratic People's Republic of Korea (DPRK) as a nuclear armed state (NAS),³ and that NWS and NNWS continue to retain the NPT as the fulcrum of non-proliferation and arms control activity.
- That credible strategic deterrence remains a necessary component of nuclear weapons states' policy.
- That certain Cold War nuclear shibboleths and other "givens" are overdue cold and intense 21st century analysis (some are more politically challenging to address than others). These shibboleths include:
 - That the broader and more diverse your spectrum of capability the more you contribute to strategic stability.
 - That a spectrum of response options is inherently stabilising and particularly tactical, dual capable, or "signalling" nuclear weapons are stabilising, and that nuclear conflict escalation is susceptible to control.
 - That ambiguity remains a contributor to nuclear strategic stability (see below)
- That nuclear weapon issues can be discussed and progressed between NAS without stifling linkage to other areas of contention between them. This will also require a forum which allows the recognised nuclear weapon states (NWS) and non-nuclear weapon states **within** the NPT to hold meaningful discussions with de-facto NAS **outside** the NPT.

Nuclear Strategic Stability

As the definition of global strategic stability has proved very difficult, the last significant attempt to quantify it being a series of papers edited by Elbridge Colby & Michael Gerson in 2013,⁴ it is considered that a more constrained definition of **Nuclear Strategic Stability** would be useful. An initial working definition could be:

Nuclear Strategic Stability (NSS) is a metric of international relations and is high where the risk of any conflict being initiated using nuclear weapons or escalated to the nuclear level is as low as is achievable. A stable nuclear world can absorb crises without breaking the threshold.

Every posture, capability or declaratory change should be assessed against this metric; nuclear weapons armed states (NAS) should always strive to improve NSS.

³ Nuclear Armed States: a name designed to include the so-called P5 (permanent members of the United Nations Security Council, or China, France, Russia, the United Kingdom and the United States) and D4 (*de facto* nuclear weapon states, or India, Israel, Pakistan and North Korea).

⁴ Elbridge A. Colby, Michael S. Gerson, *Strategic Stability: Contending Definitions*, SSI and USAWC Press, February 2013.

While Mutually Assured Destruction (MAD) is no longer a doctrinal element of nuclear deterrence, a degree of mutual vulnerability remains essential to NSS. Fundamental to the adoption of NSS as the overriding metric is the understanding that it does not affect deterrent relationships nor individual state security. Indeed, the higher the NSS, the more capable becomes strategic nuclear deterrence.

Evidently the highest NSS would be achieved once nuclear weapons were no longer fielded by any state (though this, without other compensating security actions might make the world less stable in broader conventional conflict terms). Direct progress from today's state to "global zero," however, would not be a continuous improvement in NSS. Even a carefully constructed pathway aimed at maintaining optimum NSS through an omnilaterally-agreed plan will have spikes in instability, especially at low numbers.

An analysis of every current capability, posture and policy should be compiled and marked against optimum NSS before zero. It is judged that there are six elements of NSS which NAS should use to guide their current and future actions. These are all designed to maintain or reduce the tensions from capabilities, policies or posture which weaken NSS:

RESTRAINT

RELEVANCE

REASSURANCE

READINESS

RECIPROCITY

REDUCTION

Within these six elements a **10-point Code of Responsible Nuclear Armed States** is postulated (see text box on the next page). Adoption of such a Code would identify where NAS' doctrine, declaratory policy, posture, and capability was most and least supportive of NSS and where, by adoption of the Code, and following its articles through, NSS can be improved without net decrease in NAS state security. Since, by their declaratory policies, most NAS already purport to adhere to most of these principles their formal adoption need not be challenging.

Support by NNWS of the Code's adoption by NAS would not prejudice their views on the legitimacy of nuclear weapon possession by any NAS.

NUCLEAR STRATEGIC STABILITY: KEY ELEMENTS
10-point Code of Responsible Nuclear Armed States

Restraint

1. NAS will always, and in all circumstances, exercise maximum restraint in rhetoric, posture, activity and readiness, in steady state and especially in crisis.
2. NAS will ensure that sufficient unambiguous communication pathways exist at the level of the National Control Authority for crisis communications between NAS.

Relevance

3. NAS will not employ nuclear weapons as levers of statecraft, except as strategic deterrents to other NAS.

Reassurance

4. NAS posture will reassure non-NAS of the veracity of their declaratory policy, particularly regarding political control of systems and release procedures.
5. NAS will adjust NSAs, posture, and ORBAT to maximise reassurance to non-NNAS.

Readiness

6. NAS undertake to move and retain strategic weapons systems to the lowest readiness matching their declaratory policy which in turn is reviewed to maximise reassurance and restraint.

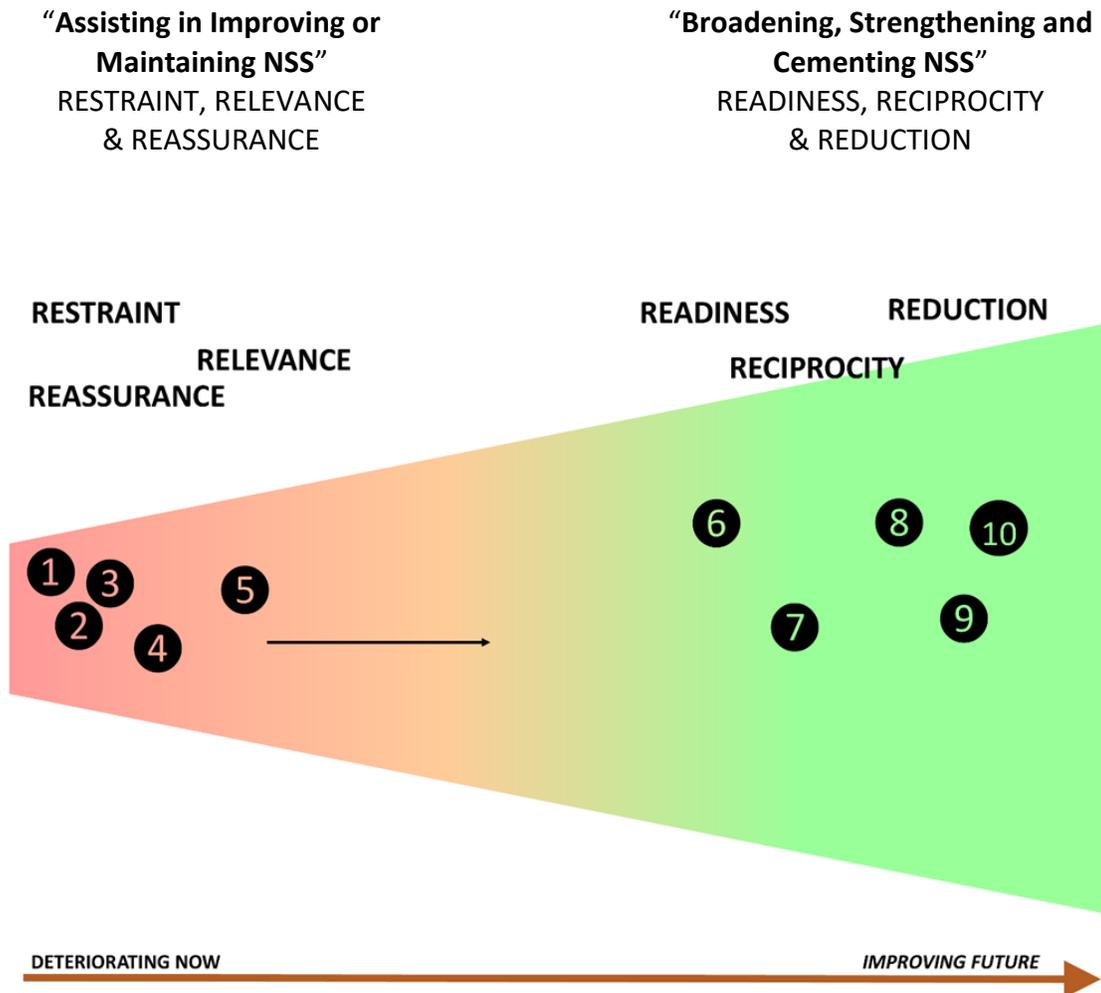
Reciprocity

7. NAS will look for areas of mutual reciprocity in posture, policy and doctrine which bolster strategic stability and reduce the salience of nuclear weapons in their security and defence metrics.
8. NAS will seek an agreement isolating strategic sensor and C3 systems from attacks and entanglement with emerging technology which could lead to misinterpretation and escalation into the nuclear domain.

Reduction

9. NAS will sketch out likely reduction paths and progress them when multilateral and omnilateral opportunities allow.
10. NAS will seek further opportunities; unilateral, multilateral and omnilateral, to reduce complexity and variety of nuclear arsenals towards the most stable - single capability system, politically controlled, strategic and most invulnerable. From this platform alone is the NPT Art VI objective possible.

Some of the elements of the Code will have more immediate effect in increasing stability while others will act in the longer term.



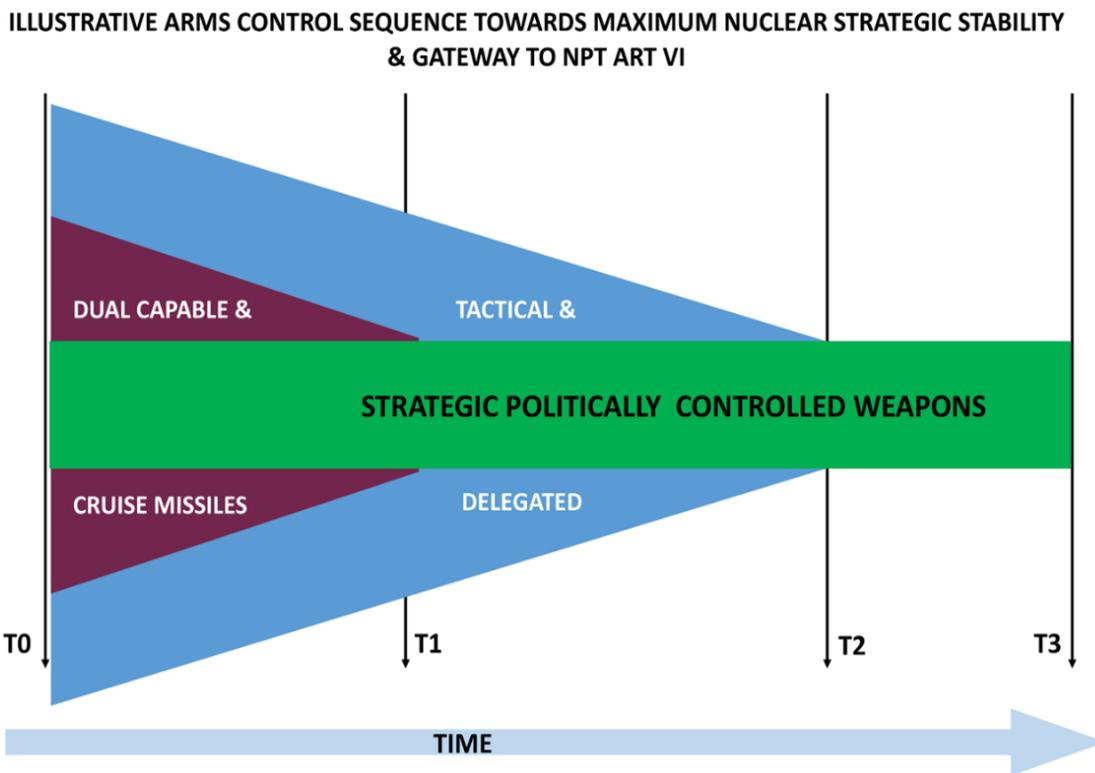
Building on Nuclear Strategic Stability: A Framework & Vision for Future Arms Control & Reduction

A lack of an agreed (if only in principle) omnilateral pathway to disarmament allows the perils identified at the start of this paper to magnify. It is unhelpful therefore to examine each of these destabilising components independently of the others. This short paper does not examine possible new arms control regimes or treaties, nor the resurrection of recently dead treaties but looks at the framework within which future work could be undertaken.

It is important to seek agreement that adherence and progress to the Article VI commitments within the NPT while maintaining minimum credible strategic deterrence means a long duration pattern of international agreement. This agreement would involve progressive activity towards NCWS reducing omnilaterally towards and then through the lens of a single relatively survivable

strategic system each thence through reductions to zero---there is currently little international agreement as to where on such a path we might be (even what such a path might look like). There is valuable work to be done here within the NPT framework and as useful and actionable activity before the next NPT Review Conference (REVCON) in 2020; the outstanding action items from previous REVCONs would easily form the framework.

I contend, therefore that future arms control discussions and agreements would benefit from understanding their placement within such a schematic pathway which is made graphic at the end of the paper. This pathway is designed to increase Nuclear Strategic Stability to a position where overall Strategic Stability is at a place where the final acts of the NPT Article VI could be undertaken. The timeline is deliberately generic and postulates three “gateways” at T1, T2 and T3. Acts by the NAS alone will not achieve this, but theirs are the front-loaded actions which most create the environment for complete nuclear disarmament.



T1 would be achieved when the “most susceptible to nuclear warfighting” weapons were controlled and eliminated. Achievement of this would be like the stabilising effect of the post-Cold War Presidential Nuclear Initiatives and the Russian responses.

T2 marks the point at which NAS had agreed to remove and decommission all remaining weapons, primarily those remaining tactical and “delegated in conflict” weapons which did not meet the criteria of strategic, politically controlled weapons of deterrence. The period between T2 and T3 would require the overall security situation prevalent to be adapted to accommodate a final removal of nuclear weapons. It is likely that new formal conventional arms control

agreements and treaties would be necessary to assure all NAS that their security would not be significantly diminished by their agreement to decommission their remaining nuclear weapons. It is this adjustment, essential but largely ignored by movements aimed solely at the removal of nuclear weapons, that is in the final clause of the text of NPT Art VI:

“Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, **and on a Treaty on general and complete disarmament under strict and effective international control.**”

While it is true that NPT REVCONS have agreed that the second clause is NOT a pre-requisite for the first, the need to ensure that current NAS feel as secure without nuclear weapons as they do with them is a fundamental pre-requisite for their elimination.

In the absence of the formal behaviour modifiers inherent in new arms control treaties, NAS should unilaterally, bilaterally, multilaterally, or omnilaterally seek means to improve global confidence and stability through communication, posture, and readiness adjustments. This pathway would ideally be agreed by all current NAS, who would also agree to the “Code of Nuclear Responsibility” designed to buttress and increase Nuclear Strategic Stability over time. In parallel, arms control and nuclear weapon reduction treaties would be necessary to achieve and maintain the gateways at T1 and T2. T3 is the time when the TPNW becomes relevant.

The adoption of *sole purpose* and *no first use* (SP and NFU) are logical way stations on this progression and should be implicit in the achievement of Gateway T2. Therefore, all NAS should study when the remaining deterrent benefits of eschewing these positive declaratory statements are outweighed by the risks and to consider whether earlier adoption of one or both would accelerate progression.

Conclusion

This brief paper brings together several critical elements and key tenets of nuclear weapons policies and postures. There is an urgent need to find mechanisms that would help turn the world’s nuclear weapons capable states from their current increasingly perilous track and provide an incentive for countries to resume discussions on shared security interests. A vital contribution would be for states to agree a globally-shared definition of Nuclear Strategic Stability that accounts for the complexities of the world today. An equally immediate agreement and adoption of the proposed Code of Responsibility would foster a responsibility-based approach.

The proposal sets no timescale for the achievement of the gateways but is aimed primarily as reinforcing stability and creating a platform for progress. These elements, as outlined above, provide the more stable platform necessary for agreement on a logical sequence of phases that would help nuclear weapons capable states maintain stable deterrence while pursuing new concepts for arms control and reductions that could re-energise the spirit and the grand bargain of the NPT. Such a drive for stability and progress is urgently required to reverse the current hazardous trajectory.

About the Author



Rear Admiral John Gower, CB OBE, served for the last 3 years of his career until his retirement in December 2014 as Assistant Chief of Defence Staff (Nuclear & Chemical, Biological) in the UK Ministry of Defence. Previously, he had spent nearly half his 36-year military career at sea, culminating in the sequential command of two globally deployed submarines. He spent 17 years ashore in the Ministry of Defence increasingly specialising in UK nuclear weapon and counter-CBRN policy. He led the UK Ministry of Defence contribution to the international activity between 2011 & 2014 to counter the threat of Syria's chemical weapons culminating in their successful removal and destruction. With very close ties to his US and French counterparts over this period, he represented the UK in senior relevant NATO committees. For the last six years of his career he was the senior policy officer in the MoD responsible, amongst a far broader portfolio, for drafting and advising upon the UK's nuclear deterrence policy as the Military Adviser to the Nuclear Deterrence Policy Committee, and through the NDPC to the Cabinet Office for the Prime Minister. He is now an independent not-for-profit consultant advising, advocating, speaking and writing on nuclear policy issues globally.

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