

Stepping down the nuclear ladder

Options for UK nuclear weapons policy

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Minimum Deterrence and Targeting Trident¹

Discussion paper by Dr Jeremy Stocker

The concept of 'minimum deterrence', or to express it subtly differently, a 'minimum deterrent', has been at the heart of the UK's nuclear posture since at least the 1960s. It continues to be an important underpinning concept and rationalization.² The 2006 White Paper on the future of the deterrent put it this way:

"The UK will retain only the minimum amount of destructive power required to achieve our deterrence objectives."³

This statement emphasises both the minimum *scale* of the UK's nuclear capability and its *purpose*. Both are relevant to the concept of minimum deterrence, and set the framework for the scope (if any) for further reductions in the size and shape of the deterrent force. A minimum size is not the same as a minimal stance, but there are clear connections between them. Because of this, and before proceeding further, it is worth also establishing the link between *deterrence* and *the deterrent*. The latter is the instrument by which the former is established. The nature of each will influence, even determine, the character of the other.

The concept of a minimum applies in several ways. Firstly, what is the minimum *requirement*? What (or who) needs to be deterred? What do you need in order to achieve it? During the Cold War, Britain's answer was straightforward: The Soviet Union, a much larger and more powerful, hostile and nuclear-armed superpower. The UK required a sufficient capability and a doctrine for its threatened use to dissuade the Soviets from attacking the country or threatening its vital interests. Just as important, the deterrent had to be of sufficient weight as to influence the UK's much bigger nuclear partner, the United States.

¹ For a fuller discussion of several of the issues raised in this short paper, see the author's *The United Kingdom and Nuclear Deterrence* Adelphi Paper 386 Abingdon: Routledge for the IISS, February 2007

² Cm 6041-1 *Delivering Security in a Changing World: Defence White Paper* Norwich: TSO, December 2003 para 3.11

³ Cm 6994 *The Future of the United Kingdom's Nuclear Deterrent* Norwich: TSO, December 2006 p.17

In relation to the Soviet Union, Britain pursued a policy of deterrence of the strong by the weak. Unlike the US, the UK did not seek (and nor could it attempt) to match the Russian capability. The size and shape of the UK's nuclear force was (and still is) dictated by a perception of the country's own deterrence requirements, not the scale of the threat to the UK. Britain had to threaten a nuclear response to aggression, the costs of which to the aggressor would outweigh any possible gains to be had from the original action. A 1980 statement put it this way:

"There is no way of calculating exactly how much destruction in prospect would suffice to deter...The Government['s] ...concept of deterrence is concerned essentially with posing a potential threat to key aspects of Soviet state power."⁴

This stance was usually described as the 'Moscow Criterion', and the ability to strike a missile-defended Moscow was taken as the yardstick of what represented an adequate, 'minimum' capability.⁵

The Moscow Criterion can no longer provide the sole rationale for the UK deterrent, or alone dictate its size and shape. But a possible need to deter a hostile, nuclear-armed Russia at some point in an uncertain future remains the single most important requirement, and the most demanding one. Something like the Moscow Criterion still governs the high-end of the UK's nuclear stance and will dictate the size and sophistication of capability below which it would be imprudent to go.

For the moment, the UK's deterrence needs are less focussed - 'Too Whom it May Concern'. As Lawrence Freedman put it recently:

"We are now thinking about a world of shrinking great power arsenals but proliferating small arsenals, of ambiguous relationships in situations of insecurity and inner turmoil."⁶

The House of Commons Defence Committee has judged that "it is not possible to predict accurately the nature of the future strategic international environment and to identify with any certainty the threats the UK is likely to face."⁷ As a prudent hedge against an unknown but nuclear-armed future world, most deterrence needs are likely to be less demanding than the residual Russian requirement, but more diverse. The 'high-end' capability needed for the latter may not be appropriate for other 'lesser' tasks.

⁴ Defence Open Government Document 80/23, July 1980

⁵ See the author's *Britain and Ballistic Missile Defence 1942-2002* Chapter 7 (London: Frank Cass, 2004) for a fuller discussion of the deterrent requirement to overcome the (still operational) Moscow missile defence system.

⁶ Lawrence Freedman "Framing Strategic Deterrence: Old Certainties, New Ambiguities" in *RUSI Journal* August 2009 p.50

⁷ HC 986 House of Commons Defence Committee Eighth Report of Session 2005-06 *The Future of the UK's Strategic Nuclear Deterrent: The Strategic Context* London: TSO, 30 June 2006 p.25

A second dimension to 'minimalism' is a desire, in the interests of disarmament, non-proliferation and budgetary savings, to reduce the scale of capability consistent with the strategic requirements outlined above. It is an approach that views nuclear weapons as a necessary evil whose numbers and yields will be kept as low as possible, short of outright abandonment. Reductions may be little more than useful gestures, or can amount to substantial adjustments that indicate a genuine de-emphasising of nuclear weapons in national security policy. An example of the former is the recent decision that future submarines will carry 12 rather than the present 16 missile tubes. The elimination of all nuclear systems other than Trident in the 1990s demonstrated the latter.

The UK is arguably the most 'forward-leaning' of the five NPT-recognized nuclear powers in disarmament terms.⁸ But the late Michael Quinlan sounds a cautionary note: "If nuclear armouries are to exist at all, it is foolish to damage their deterrent utility by endless pruning at the margin".⁹ The UK has already reduced to a single delivery system, Trident, and maintains just one submarine on patrol with no more than 48 warheads on an undefined number of missiles. The scope for further numerical reductions without a change in operational posture may be limited.

A further consequence of a numerically minimalist approach is the need for assurance. That is, such capability as is maintained must be extremely reliable, and capable of fulfilling any of the possible tasks given it. This increases the technological and operational demands made of the deterrent, and must inform decisions about the type and scale of capability to be retained.

The third aspect to minimalism is the critical mass of capability, below which there are practical obstacles to maintenance of an effective force. For example, a single submarine would have to spend a proportion of its service life in deep maintenance and unavailable. Just two boats would leave a single unit operational for some of the time, preventing continuous operation whether formally on deterrent patrol or not. Arguably missile and warhead numbers can be reduced to very small numbers but the infrastructure required irrespective of numbers makes further financial savings impossible below a certain total. Moreover, as numbers of any component of the force reduce, so the significance of mishap to any single piece of equipment multiplies.

The final aspect of minimum deterrence is the most novel and interesting. During the Cold War, the stakes could not be higher - national survival. Deterrent effect was achieved by being able to threaten the maximum amount of damage to an opponent, given Britain's slender resources and modest capability. Today, it can be argued that absent an obvious existential threat, but in the face of lesser but still WMD-armed risks, the position has been

⁸ Stocker, Adelphi Paper 386 Chapter Four

⁹ Michael Quinlan "Aspiration, Realism and Practical Policy" in John Baylis & Robert O'Neill (eds) *Alternative Nuclear Futures: The Role of Nuclear Weapons in the Post-Cold War World* Oxford: OUP, 2000 p.53

reversed, and that effective deterrence may rest on being able to threaten the *least* amount of (still catastrophic) destruction.

This observation hinges on the central issue of credibility, which lies at the heart of any deterrence posture, nuclear or not. Promises of retaliation must be believable - to deteree and deterrer alike. In situations short of a struggle for a state's very existence, such threats must be proportionate, to be believable. Threats to destroy another society and inflict millions of deaths in response to lesser (but still serious) acts are not believable and therefore not effective. Deterrence in today's 'Second Nuclear Age'¹⁰ requires that, in some circumstances, credibility will rest on being able to hold out a promise of *minimum* (but still nuclear) retaliation. Indeed, it may be possible to envisage circumstances where a non-nuclear (but still catastrophic) response to WMD aggression may be more plausible.

What does this mean in terms of actual capability? It is certainly not just about numbers. In fact, the need to address a range of possible scenarios may dictate somewhat greater overall numbers than a single Moscow-type requirement. 'One size fits all' will not suffice. It does mean that the UK will require a range of possible options, which for reasons of both disarmament policy and financial restraint will need to be provided by a single system.

Discussion of strategic options brings us neatly to the issue of targeting. Not surprisingly, given the political and operational sensitivities, British governments have always refused to publically discuss the matter, even in the days when the Moscow Criterion was widely understood to be the basis of UK policy. This must be doubly so today, when the potential deteree is not even known. But we can draw some sensible conclusions. The ability to threaten proportionate retaliation places a premium on accuracy, timeliness and appropriate scale. In the event that the UK needs to threaten a nuclear retaliation, it will have to tailor that promise either to the exact circumstances of the particular crisis or to an ongoing adversarial relationship.

In the past, targeting policy has sometimes been seen as a choice between 'counter-value' and 'counter-force'.¹¹ The latter would require a large, accurate force able to destroy or at least degrade the enemy's own offensive force. A counter-value strategy would threaten what the enemy valued most, probably his cities, and might not require the same size of force nor great degrees of accuracy. The distinction is, however, a somewhat artificial one. No attempt at a counter-force strike (whether as a first- or second-strike) could do other than inflict utter devastation on 'value' targets as well. Rather, it is a matter of whether such 'collateral' damage is the objective of the deterrent threat or an unavoidable consequence, whilst noting that anyone on the receiving end of a nuclear strike is unlikely to care either way.

¹⁰ Colin S. Gray *The Second Nuclear Age* Boulder CO: Lynne Rienner, 1999

¹¹ Michael Quinlan *Thinking About Nuclear Weapons* Oxford: OUP, 2009 p.126

It is difficult today to envisage a counter-value strategy being adopted in the sense of deliberately targeting civilian population centres. But a counter-force approach might imply an intention to pre-emptively destroy an opponent's own offensive force as an alternative to deterrence. In the heat of a crisis this might tempt an emergent nuclear power, without a secure second-strike capability, to launch first on the 'use it or lose it' principle. Another approach is required. In order to have the required deterrent effect it is necessary to target what a putative enemy values, but in terms of 'key aspects of state power' rather than just populations. This seems, so far as one can tell, to be the basis for current UK targeting policy. The 1980s Cold War approach may have more relevance, still, than at first sight appears.

The critical change may therefore not have been the end of the Cold War and the emergence of the second nuclear age, significant though that shift has been. Rather, it is the development of highly accurate targeting (such as that associated with Trident) as compared to earlier, less accurate systems (such as Polaris). Interestingly, it was the greater accuracy of Trident that led to the deployment of a warhead with half the yield of its predecessor. Greater accuracy allows both for smaller warheads and a policy of targeting key assets rather than population centres.

This trend might be extended as certain types of critical target become susceptible to precise conventional attack (possibly using Trident missiles, as the US is planning to do). But this approach could have an uncertain effect on deterrence. Whilst the ability to hold under threat 'key aspects of state power' by whatever means can be a powerful deterrent, a desire to do so without recourse to nuclear weapons could be interpreted as an unwillingness to take the final step - in effect, self-deterrence. In the face of less scrupulous adversaries, that might lead to a serious failure of deterrence.

Yield is as important as accuracy in post-Cold War approaches to targeting. If deterrence relies on the ability to hold at risk these key assets, high degrees of accuracy probably means that large warheads are not required. Instead, they may be counter-productive in their tendency to create large-scale collateral damage beyond the intended target. Again, self-deterrence becomes a real issue because of restraint, proportionality and, increasingly, legal constraint.

The development of reduced-yield options for Trident in the 1990s was initially a consequence of the elimination of all other nuclear systems. The 'sub-strategic' role was a replacement for the old 'theatre' capability which was abandoned with the withdrawal of air-dropped weapons and the cancellation of an Anglo-French air-launched cruise missile. The phrase sub-strategic has now been dropped from official statements, no doubt recognizing that the use, or threatened use, of nuclear weapons is firmly strategic with a

capital 'S'.¹² Instead, reduced yields from the existing warhead provides a range of more selective and proportionate targeting options, as does the deployment of a number of missiles with a single warhead.¹³

Discussion of selective targeting and small warheads has been taken by some commentators to imply that the US, in particular, contemplates the use of nuclear weapons for 'warfighting' rather than for deterrence. Such a distinction misses an important point. It is only by the possibility, however remote, of their use that weapons can deter. A weapon intended never to be used will not deter. Though the mere presence of nuclear weapons induces great caution, to rely solely on the sheer awfulness of nuclear weapons for their deterrent effect risks deterring oneself as much as anyone else. In order to deter others, it is necessary to hold out the real possibility, in extreme circumstances, of their use. In Michael Quinlan's words, "the evident possession of practical options is directed entirely to making war as remote an eventuality as possible."¹⁴

This is the essential link between deterrence and targeting. In turn, diverse and often unknown targeting requirements dictate the scale and variable capability of the deterrent force. If the UK is to remain a nuclear weapons state, it will need to maintain a capability that is sufficiently robust to meet the most severe likely deterrence requirement and sufficiently flexible to be credible in a range of 'lesser' scenarios. The credibility of this force as an effective deterrent will also require Britain to have plans, in extremis, for its actual use.

¹² Michael Codner "Britain's Nuclear Deterrent: Keeping the Options Open" in *RUSI Newsbrief* August 2005 p.88

¹³ The MoD has never stated officially that this is the case, but has noticeably never contradicted frequent assertions to this effect. Nor has the MoD confirmed, or denied, that the Trident warhead has possible yields of approximately 1, 10 or 100 kilotons. It seems unlikely that a reduced yield would be combined with anything other than a single warhead.

¹⁴ Michael Quinlan *Thinking About Nuclear Weapons* Whitehall Paper 41 London: RUSI, 1997 P.16