

Memorandum from Professor John Simpson[1]**Executive Summary**

1. This paper attempts to work systematically through the context that any UK nuclear deterrent capability will have to operate within over the next 50 years. In doing this, the 'strategic context' has been defined in a very broad manner, but one regarded as appropriate for an issue arguably last discussed in detail in the period 1959-62 by the British Nuclear Deterrent Study Group, a group of senior serving officers, officials and scientists.

2. The objective of the paper that follows is to try to identify a series of questions / criteria / options (highlighted in the text below) that may be used to guide thinking about the future strategic environment in which the UK will operate. Few of the questions are open to simple answers. But since it may be another 50 years before the issue is tackled again, our main conclusion is that much more detailed analysis and research is needed into them, in order to clarify both the nature of the new strategic environment into which the UK is moving, and the role that the UK can reasonably be expected to play in that environment.

3. In particular, key contextual variables appear to be:

- What deterrent roles a future nuclear force could reasonably be expected to perform and in their absence, whether the expectation would be that UK nuclear weapons would at some point actually be used;
- the choice between a greater or lesser UK nuclear dependence on the US and enhanced military cooperation with France and the EU / NATO;
- decisions on any extra-European contexts a future nuclear force would be designed to operate within;
- decisions on the exact nature, magnitude, affordability and concept of operation of the nuclear capabilities that may be required;
- decisions on the targets that the weapons may be used against;
- the attitudes of the UK population to the use of UK nuclear weapons other than in defence of the British Isles; and
- the nature of the complex interplay between UK nuclear decisions and those of others, particularly in the non-proliferation and arms control contexts.

Introduction

4. The strategic environment the Polaris, Chevaline and **Trident**

systems were designed to operate within has changed radically since 1991. Prior to that the strategic premise that dominated official policy was that the UK faced a threat of surprise attack by a Soviet Union / Warsaw Pact that had both the perceived capability and assumed intention to expand into Western Europe and elsewhere. It was believed by contemporary decision-makers that possession of nuclear weapons (and a range of other military capabilities) by the UK served to counter both the *actual* and *developing* Soviet military and political threat. Further, it was argued that the UK's nuclear weapons obviated the need for more specific capabilities to deter or combat a large range of potential lesser non-conventional and conventional threats arising from existing or future foreign capabilities. This placed nuclear-weapons at the centre of UK Defence Policy.

5. Internationally, the acceptance of these strategic assumptions meant that the concept of nuclear deterrence became the central organising mechanism for contemporary international security relations. Its supporters argued that it stabilised the military relationships between the main protagonists of that period and enabled them to be institutionalised through bilateral arms control agreements.

6. By way of contrast, the current situation has been described as one where:

...in the 21st century we are faced with new fears, prompted by a new global security environment characterised by the proliferation of all types of WMD and their delivery systems... [This new environment] appears to centre on regionally based sets of security problems and the threat posed by international terrorist organisations. In this environment the central role of deterrence, both nuclear and otherwise, appears to have diminished[2].

7. In the face of these new security concerns, **the idea that nuclear deterrence can still act as the predominant mechanism to manage and stabilise global and regional security relations must be questioned.** In addition, the decisions in 2000 by the NPT nuclear-weapon states to formally de-target their own nuclear capabilities appear to symbolise a tacit shift in the roles their nuclear-weapons are expected to perform. Operational capabilities are becoming hedges against future undefined threats, rather than current defined ones. The relevance of existing nuclear arms control agreements, other than those relating to these new threats, is also being questioned.

8. The immediate need has been for military capabilities to engage in intervention and counter-insurgency operations in the hope of stabilising conflict situations. While these have included the development and use of advanced conventional military technologies (precision guided bombs and missiles and network centric warfare), nuclear weapons have not been involved, other than in the form of statements that 'nothing is

ruled out'.

9. In this context, there is a temptation to use forecasts / scenarios of the future strategic environment to drive UK nuclear policy. Unfortunately, such techniques are inherently problematic, and the forecasts they produce may be no more than 'guesstimates'. **Is it wise to base decision-making about the need for a Trident successor system solely upon such forecasts?**

10. If not, what complementary techniques can be used? One would be to examine the need for replacing Trident in more general terms, and to assess whether it represents the most cost-effective insurance against a range of credible, future generic threats, such as biological or chemical weapon proliferation. A second is to examine whether nuclear weapons have a real military role, as against political role, in the 21st century. A third is to focus on the unquantifiable political (and possibly economic) benefits that can be derived from the role of a UK nuclear force in US-UK security relations and other politico-military areas. In all three cases, it is often presumed that the benefits of a UK nuclear force are positive, but there is little hard evidence to support this position. **Are there indeed tangible benefits in all these three areas which can be set against the costs of ownership of nuclear weapons?**

11. These techniques may offer some basis for arguing that the UK has a need for a nuclear deterrent and also guidance on what type of nuclear-weapon capability the UK should possess - sea, air or land based; ballistic missile, cruise missile or aircraft; operational or potential; numbers; and warhead yields. However, they appear to offer little guidance on the type of deterrent capability that may be desirable in future or what its specific targets might be. For instance, **does the deterrent need to be immediately available, operational and deployed, or can it be a reserve capability which can be activated in a matter of days, weeks or months - the art but not necessarily the article? And what might be the targets of the first type of force?**

12. One significant issue in answering this question may be the future of AWE. Any decision not to replace Trident with an equivalent system would still necessitate retention of many of AWE's capabilities in order to dismantle the Trident warheads and engage in 'defensive' research. The UK would then create a new category of nuclear state, namely an NPT nuclear-weapon state with no deployed capability. It is only if a political decision were taken to terminate all nuclear weapon activities, defensive and offensive, that AWE's fundamental purpose would change. Indeed since the international moratorium on nuclear testing came into existence ten years ago, AWE's 'legacy management' activities have been an increasingly important part of its role. **Is it therefore feasible and desirable for AWE to sustain a dual role of maintaining a 'potential' nuclear-weapon capability as well as managing the UK's nuclear weapon legacy if the decision was taken not to replace Trident?** And if not, **what confidence and transparency measures would be needed to**

convince other states that the UK was no longer a nuclear-weapon state-especially if it continued to rely via NATO on its nuclear security being provided by others?

The Nuclear Future

13. The UK government currently has a rare opportunity to reconsider the entire set of arguments surrounding its continued possession of nuclear weaponry. The 'insurance against uncertainty' temptation and the other types of justification identified above are a very unsatisfactory basis for committing scarce defence resources to this activity. **How therefore might one systematically analyse whether the indefinite continuation of an operational UK nuclear deterrent is justified?**

14. One pragmatic way of doing this is to identify a small number of key questions that could assist and guide thinking on this. The remainder of this paper will therefore focus on the following **fundamental contextual questions:**

- **Will there still be a UK to defend?**
- **Will current security mechanisms remain in place?**
- **What may be the main security threats in future to the well-being of UK citizens?**
- **Will industrial war be replaced by people's war?**
- **Which areas of the world will be zones of peace and which of conflict - and how will the UK relate to them?**
- **What targets would the UK government choose to threaten with its nuclear weapons in the twenty-first century - and how much support would they receive from the UK population in doing so?**

Will there still be a UK to defend?

15. The answer to this question lies both within and outside the UK. Internally, it relates to the further devolution of powers to Scotland, Wales, Northern Ireland (and England?), and whether this will result in one or more of these regions gaining sovereign status either within or outside of the EU. A study has already been made of the possible consequences for the UK of greater independence for Scotland, where the UK nuclear force is currently based^[3]. **Would existing 'federal' nuclear force arrangements persist in the event of greater devolution of powers?**

16. Externally, the key issue is whether the nuclear deterrent will remain a national capability or become an EU capability - and whether NATO will persist, and with it the existing arrangements under which the UK nuclear force is committed to a NATO role. This issue can be deconstructed into two elements: **Would the UK give-up its sovereignty in defence issues to the**

EU, and would the UK (and France) be expected to use nuclear force to deter an attack on an EU state?

17. On the first element, it is possible, although currently unlikely, that this issue would arise by 2025. If it did the subsidiary issues **would** be whether **the EU collectively would want a nuclear deterrent** (particularly given the traditional non-nuclear policies of Ireland and Sweden), **and if so how the UK and French forces would be incorporated into the defence forces of an EU political entity.**

18. On the second element, it seems inconceivable that an EU state under threat of, or actual, external military attack would not ask for assistance from its fellow EU and / or NATO states. Such a case, however, would probably be confined to those states on the eastern or southern periphery of Europe. It cannot be discounted that WMD would be involved. **In these circumstances, would the European nuclear-armed states be required to provide positive nuclear guarantees to their EU partners and EU conventional forces, including UK ones?**

Will current security mechanisms remain in place?

19. Three major mechanisms are central to UK security activities at the moment: the UN, NATO and the treaty-based WMD regimes. In addition, the bilateral UK-US and UK-French security relationships will almost always have a bearing on any future nuclear decision-making.

20. The relevance of the UN to UK security policies lies in the UK's position as a permanent member of the UN Security Council, and the consequent self-imposed responsibilities to aid actively UN peacekeeping, conflict resolution and peace enforcement measures with military force. It is inconceivable that the UN would not remain in being into the indefinite future. One consequence is that a nuclear-armed UK may be requested to provide positive nuclear or WMD security assurances to UN members confronted with threats from regional neighbours. A UN role would imply a possible requirement for a UK nuclear deterrent system that had a global reach. It also raises the issue of possible conflicts (as arose in the 1960s) between its global use, and its exclusive commitment to NATO. **Should UK governments plan to sustain the ability to provide nuclear security assurances on a global basis?**

21. NATO continues to be the legal basis for European defence arrangements and the common defence inherent in it underpins UK-US nuclear co-operation. As NATO evolves in its membership and its defence focus moves out to its eastern and southern boundaries (and in cases such as Afghanistan beyond them), the relationship of its nuclear-weapon capabilities to these activities may arise. **What future role would a UK nuclear force have in the evolving military commitments of the NATO states?**

22. The greatest nuclear capabilities on NATO's borders will almost certainly continue to reside in Russia. It continues to be viewed by many as a state whose political and social

stability remains uncertain, and whose future direction is unclear. Concerns that it might take a more aggressive approach towards Europe and project its future military power in support of economic goals cannot be ignored, although little hard evidence exists to support this thesis. Russia is, however, not solely a European power and any major nuclear disarmament on its part would require a global agreement. **What significance should be attached in UK nuclear planning to insure against a re-emergence of a nuclear threat to Europe / the UK from Russia?**

23. The NATO and UK nuclear weapon capabilities remain heavily dependent upon the US commitment to the defence of Europe. It has been argued that it now sees NATO Europe more in terms of a convenient base for operations outside the NATO area driven by its own-self interest than part of a common defence structure. **How will the US nuclear relationship with Europe evolve in the coming decades, and what implications might this have for the future of the UK nuclear force?**

24. During the Cold War period, Treaty regimes played a central role in limiting nuclear proliferation and enabling the UK to maintain what it regarded as a technically credible deterrent force. The bilateral agreements between the US and USSR limited the USSR's offensive and defensive missile systems and enabled the UK strategic force size and nature to be driven by the provision of the assured capability to destroy the USSR's government, capital (and inhabitants).

25. The bilateral nuclear limitation and reduction treaties will terminate in the next decade and the US has withdrawn from the ABM Treaty. However, this will not necessarily result in states which might be hostile to the UK acquiring effective defences against the current or future UK deterrent force. Indeed it is debatable if any perfect 'defence' against nuclear weapons is possible. Lord Zuckerman, the government's Chief Scientific Advisor in the 1960's once commented that all that was required for the nuclear destruction of a city is for one weapon to evade defences^[4]. **Would any government willingly risk the lives of the population of one or more of its cities in the belief that their defences might work, and thus should their possible existence drive the technical capabilities of any future UK programme?**

26. The nuclear non-proliferation regime contributed to the successful prevention of overt proliferation through to 1998; enabled South Africa to pull-back from proliferation and enter the NPT; and facilitated the effective handling of the consequences of the USSR collapse. By 1998 only four states remained outside of the Treaty, three of which were believed to have nuclear weapon capabilities. Since that point, confidence in the effectiveness of the NPT as a non-proliferation mechanism has been slowly eroding. Two of the states outside the Treaty (India and Pakistan) have tested several devices and declared their weapons to be operational while others (the DPRK, Iran and Iraq) are perceived by some to have been in membership of the NPT while undertaking an active nuclear-

weapon programme. Nevertheless the Treaty remains the legal corner-stone of the non-proliferation regime, and the basis for international actions against proliferators.

27. One of the assumptions underlying the NPT was that nuclear weapons were a necessary, but temporary, evil associated with the historical context of the Cold War in which they were developed. As a consequence, many states party to the Treaty profess to believe that a move by the existing NWS to pursue nuclear disarmament in good faith in accordance with their commitment in Article VI of the NPT would help to strengthen the Treaty regime. Of the existing nuclear weapon states, the UK has been for a long time been seen as the most "forward-leaning" towards negotiating nuclear disarmament, and it has gone further than any of the others to reduce the number of its weapons unilaterally and use the reduction process to analyse how nuclear disarmament might be verified.

28. There is a risk that a UK decision to renew its capability will be seen as confirmation that nuclear weapons are now a permanent feature of the international security landscape. Even if this was believed to be true it would be counterproductive for it to be acknowledged. For both forms of acknowledgement would erode the moral and political underpinning of the NPT still further. At the same time, it is impossible to demonstrate that a UK decision to forgo renewal of its capability, either alone or in through negotiations with others, could now arrest the erosion of the NPT.

29. This appears to make it important to try to link any future UK nuclear force decisions to WMD disarmament and counter-proliferation initiatives, and thus to try to shape the future strategic environment in a positive way [5]. Further consideration of this issue from both a legal and a political angle thus seems warranted. Above all, **can the issue of the UK's future nuclear-weapon capabilities be handled in a manner which takes these issues into consideration and does not reduce further international support for, and confidence in, the NPT?**

30. In terms of the UK and US bilateral security relationship, the UK government will have to balance the need to 'hug the US close' to preserve the perceived, but difficult to prove, multiple benefits of this relationship to Britain's security and (possibly) economy against the need for an independent capability to act in case UK interests diverge significantly from those of the US. In terms of procurement policy, the only financially viable alternative to continuing with US designed and built delivery systems appears to be a much closer nuclear relationship with France. In that context options might include not only the adoption of a French-built submarine-launched ballistic missile, but also an air-launched capability operating from one of the RN / French Navy's future aircraft carriers. **What would be the costs / benefits of accepting or limiting future dependence on the US in nuclear operational and procurement matters? What would be the costs / benefits of moving to a closer nuclear-weapon relationship with France? How**

would the two interact with each other?

What may be the main security threats to the well-being of UK citizens?

31. Future threats to the well-being of the UK may be of a security, economic or environmental nature. The current security environment is characterised by instability and uncertainty: there is no obvious reason why this situation should not persist into the indefinite future. The focus of threats and their geographic source is unlikely to be static. Political circumstances and decisions, along with the diffusion of technologies, including 'black market' trading in WMD capabilities, have conspired in recent years to increase the risk that the UK's unavoidable vulnerability to unsophisticated nuclear, biological and chemical weapons will be exposed.

32. International terrorism will remain a serious threat for most if not all of the next twenty years and beyond. But it will probably not be a strategic threat (to our continued existence or democracy) even if nuclear, chemical or biological weapons capabilities are involved. Reducing that threat will almost certainly require the cooperation of other national governments, some of which (e.g. Pakistan and the DPRK) may have military, WMD and regional objectives that conflict with our own aspirations for global stability. This may bring UK counter-terrorism and non-proliferation policies into direct tension and require the careful weighing of the UK's conflicting objectives. The key questions are ***does the UK's possession of nuclear weapons pose a credible threat to terrorists, given the difficulty of targeting them and the apparent disproportionality of such a response - and does the UK's possession of nuclear weapons pose a risk of their being stolen and used by terrorists?***

33. The UK and European economies are now closely integrated into the global economy. Any major disruption of trade flows in that economy would have a significant effect on the wellbeing of those in the UK. This gives the UK a significant incentive to assist in sustaining regional stability, especially in areas such as China / Japan / South Korea, the Gulf and South and Southeast Asia. It also raises the issue of the degree to which the UK / EU should play an active diplomatic, and possibly military role, in reinforcing security relations in these distant areas by active involvement in security guarantees / military assistance commitments, including nuclear ones, rather than limiting them to European boundary areas. ***Is it desirable to offer nuclear assistance to specific regional economic partners, and would the use or threat of use of nuclear weapons in this context have domestic political support?***

34. As the global economy expands, so too does the pressure on resources, such as water, oil or other basic necessities. Disruption in resource flows may have physical effects as well as economic ones. A global expansion in the numbers of nuclear power stations and fuel cycles designed to provide energy security also runs the risk of creating more states with

nuclear capabilities that place them 'six months away from the bomb', with its associated security implications. **What future connections, if any, will emerge in these areas between international frictions over resources; threats of nuclear proliferation; and a requirement for UK nuclear forces to counter them? What would any UK government do with its nuclear capability if faced with such challenges?**

35. A potentially greater threat to UK security lies in the area of climatic change rather than nuclear weaponry. The Third Report of the Intergovernmental Panel on Climate Change (IPCC), established by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP), estimated in 2001 that by the end of the twenty-first century global temperatures could rise by between 1.4C and 5.8C[6]. While argument exists over the role of human activity in this change, it seems probable that climatic variation, however caused, will impact on the international security environment in significant ways. **To what degree would the possession of nuclear weapons assist the UK in facing any threats that arise from climate change?**

Will industrial war be replaced by people's war?

36. Since 1991, a school of thought has been slowly emerging that argues that the 'industrial' wars of the last century are things of the past[7], and that the domination of warfare by tanks, aircraft, battleships / aircraft carriers, and above all by ballistic missiles and nuclear weapons, is over. This school argues that the objective of warfare now is control over populations and peoples, not territory. In such an 'asymmetric' conflict nuclear weapons are irrelevant. Others, however, would argue that it is only the existence of nuclear weapons that has allowed this move away from industrial war to occur, and that if they were forgone it would become possible again. At the root of such a debate is the issue of whether disarmed states will always be in a state of potential nuclear-weapon possession.

37. This shift in military thinking away from the postures developed for the Cold War to those demanded by the post-9/11 world is mirrored by recently released United States policy documents. The 2005 Quadrennial Defense Review contains a shift away from a focus on traditional threats from large, institutional forces to irregular, disruptive and catastrophic threats. It calls for "defeating violent extremists; defending the homeland; helping countries at strategic crossroads; and preventing terrorists and dangerous regimes from obtaining weapons of mass destruction"[8]. Only the second of these (or, to a limited degree, the last) would seem to offer a role for old style nuclear deterrence. **What is the relevance to the any UK nuclear successor system of this reduction in the salience of nuclear weaponry in the overall US defence posture?**

38. This trend can already be seen in UK defence planning, where UK military capabilities are being justified in terms of the specific role that they can play in a range of military

activities to be performed in a limited range of geographical areas - nuclear weapons are the sole exception[9]. As a result, a disconnect is emerging between the resources necessary to enable the UK military forces to carry out their contemporary and future roles in respect of nuclear counter-proliferation and people's wars, and the current nuclear capabilities designed to deter surprise disarming attacks and inflict unacceptable damage on an enemy. **Should a UK nuclear capability designed for 'industrial war' be replaced by a similar one in 2025, or should the resources needed for this role be diverted to military capabilities more appropriate for an age of 'people's war'?**

Which areas of the world will be zones of peace and which of conflict-and how will the UK relate to them?

39. In the space of 15 years Europe has been transformed from a zone of military friction and potential nuclear war into a zone of peace. Political agreement and economic, social and political integration, allied to a lack of potential external security threats to the west and north, have raised profound questions about the military role the UK needs to be able to play in the next 50 years in both an internal European context and an external one.

40. Currently, it is difficult to see any significant security threats to the UK homeland arising in its immediate geographical vicinity - unlike the situation in which its nuclear forces were first developed. Rather, the armed forces are likely to be operating on the east or southern peripheries of Europe; to prevent nuclear proliferation; and to stabilise zones of conflict in areas where Europe has economic or resource interests (i.e. East and South Asia, and the Middle East and the Gulf, as well as Africa). This line of thought suggests that if UK nuclear capabilities were necessary to support them they would need to have a global reach through being highly mobile and have integrated logistics. Again, **is it desirable for a replacement UK nuclear force to be able to support its conventional intervention forces and to have a global reach? And although deterrence between states now appears to be obsolete, would the situation change if states outside Europe acquired an ability to target the UK with long-range nuclear delivery systems?**

41. Such a force may also need to be sufficiently autonomous to operate within different 'coalitions of the willing', be they US, European or 'other' led. A decision to acquire and sustain such a nuclear force begs a wider question: to what extent is it desirable for the UK government to move into an entirely new theatre of nuclear operations, where the pre-emptive deployment (and even use) of nuclear weapons may become an integral part of military planning and operations? Such a move may heighten the incentives for regional powers to proliferate to defend themselves against such deployments, and lead to the use of visible offensive nuclear deployments in force projection and war-fighting, rather than as deterrent and political weapons. **Is such a change in UK nuclear doctrine desirable and capable**

of being implemented at an acceptable cost (including opportunity cost)?

What Targets would the UK Government Choose to Threaten with Its Nuclear Weapons in the Twenty-First Century - and how much Support would they Receive from the UK Population in doing so?

42. In the early 1960s, Sir Robert Scott, the PUS in the MoD, argued that identifying the targets the UK would want to destroy if military action was to occur was the most useful way of considering what weapon systems would be required over the next twenty years[10]. The service chiefs and senior civil servants agreed that focusing decision-making on the fundamental question of how many Soviet cities needed to be destroyed for the UK nuclear force to be credible was the only way to decide 'how much was enough'? If this methodology were to be applied to the issue of **Trident** replacement, it would mean asking **what targets would a twenty-first century UK government, but more significantly the UK population, be willing to see destroyed with nuclear weaponry?**

43. If the targets are to be terrorists, then where might nuclear weapons be detonated in the 'war on terror' without killing civilian non-combatants? If they are to be used against the armed forces of hostile nation-states in regions other than Europe, then will any UK government be willing to accept responsibility in the UN and elsewhere for the huge numbers of civilian deaths resulting from such usage? Considering the damage caused to the UK political system by the invasion of Iraq - in terms of trust of government, the engagement of the citizen and views of the alliance with the United States - will future UK governments be self-deterred from the use of nuclear weapons by the potentially disastrous effect on the UK body politic of the human casualties involved?

44. Possible scenarios where nuclear weapons might be used on grounds of security are ultimately at the heart of any UK debate because nuclear weapons are qualitatively different from all other types of weapon. A fact masked by most analysis of the value of nuclear deterrence and the need for a deterrent is that most nuclear weapons are designed to destroy a huge target area in one certain blow. To refuse to discuss the consequences of use is to refuse to discuss the issue of **Trident** replacement at its most fundamental level.

45. Potential use is an issue that policy-makers have steered away from in the past on the grounds that deterrence sought to avoid conflict. But if the UK is moving into a world where traditional concepts of nuclear deterrence are largely irrelevant for reasons described above, **are the main grounds for arguing for the continued possession of nuclear weapons to be one of the utility of nuclear weapons in destroying potential targets, rather than in a deterrent role?**

46. At the height of the Cold War, UK government planners believed that the UK population would only support the use of nuclear weapons in conditions where the security of the British

Isles was directly threatened. It seems even less likely that the current UK population would (if consulted) be more amenable to its use unless in response to a direct threat or use against UK territory or its perceived vital interests - unless it had become fully integrated into a wider EU entity. Moreover, the UK government has accepted a detailed legal commitment about the circumstances in which nuclear weapons **would not** be used through UNSC 984 of 1995[11]. Under what circumstances **do UK nuclear weapons have national utility if their deterrent capability appears to be restricted to a mainly extra-European role, and if their scope for use is hedged around with legal commitments and the uncertain reactions of the UK public in a world of transparency created by access to a global media?**

The Timing of a Decision

47. Given the current and future uncertain strategic environment, a key factor is when critical decisions on the UK's future nuclear capability will have to be taken. A range of technical factors will dictate this. Although taking more time before making a decision will not necessarily lead to any clarification of the future security environment, it is unlikely to be a significant disadvantage. The luxury of additional time is that it would allow a deeper analysis of the political, military and economic factors and the complex cost-effects judgements involved

48. Delaying a decision, if it was done consciously and visibly in order to allow a set period of time to elapse for the UK to explore one or more disarmament / arms control initiatives influencing the size and nature of the ongoing UK nuclear capability, would allow the UK to go some way towards shaping the strategic environment against which the UK **Trident** successor decision would eventually be taken. It would also lessen any negative impacts of that decision upon the global nuclear non-proliferation regime. Moreover, it is not impossible that the life of the existing force could be extended (e.g. by altering its operating arrangements or renewing only time limited elements of the force) to allow all these possibilities to be fully explored, and thus important aspects of the future strategic environment clarified.

49. At the same time, in order for an effective public and Parliamentary debate to take place, there is a need for a clearer and more detailed description from the Government of its perception of the potential future threat environment based on the best current intelligence assessments available to it. This could take the form of a summary of the latest estimates of the future potential strategic and sub-strategic threats based on clearly identified assumptions about foreign, military and economic policy objectives. Such a move would require a release of intelligence information no more significant than that routinely provided to the US public on an annual basis.

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[1] The colleagues who contributed language and ideas to this text include David Broucher (former UK Ambassador to the CD; Brian Jones (Visiting Senior Research Fellow, MCIS)); Ian Kenyon (Visiting Senior Research Fellow, MCIS) and Richard Maguire (Research Fellow, MCIS)

[2] Ian R. Kenyon and John Simpson (eds), *Deterrence and the New Global Security Environment*, (London: Routledge, 2006). The chapters of this book were previously published as papers in a Special Edition of the journal *Contemporary Security Policy*, Vol 15.1, April 2004.

[3] Malcolm Chalmers and William Walker, *Uncharted Waters: The UK, Nuclear Weapons and the Scottish Question* (East Lothian: Tuckwell Press, 2001). For a recent study of some of the issues surrounding the Faslane base and other nuclear facilities in Scotland see Brian P. Jamison, *Britannia's Sceptre: Scotland and the Trident System*, (Glendaruel: Argyll Publishing: 2006).

[4] Lord Zuckerman, 'Nuclear Reality, Military Illusion, Political Responsibility', *Disarmament* (New York: UN, 1964),vii, p.4.

[5] E.g. in 1967 when a possible decision to abandon the UK strategic nuclear deterrent was being discussed, it was proposed that this should use to generate momentum for a rapid increase in numbers of states signing and ratifying the NPT. See Paper prepared under the aegis of the Official Committee on Overseas and Defence Policy in response to a request by the Prime Minister in his minute 94/97 of 24 July 1967 to the Foreign Secretary, National Archives, DEFE 25-123.

[6] IPCC, *Third Assessment Report - Climate Change 2001*, [Cambridge: Cambridge University Press, 2001].

[7] See for example, General Sir Rupert Smith, *The Utility of Force: The Art of War in the Modern World*, (London: Allen Lane, 2005)

[8] *Quadrennial Defense Review Report*, US Department of Defense, 6 February 2006,. Available from:
<http://www.defenselink.mil/qdr/report/Report20060203.pdf>

[9] 'Annex: Determining the Force Structure', *Delivering Security in a Changing World: Future Capabilities*, Cm 6269, Ministry of Defence, July 2004. Available from:
http://www.mod.uk/NR/rdonlyres/147C7A19-8554-4DAE-9F88-6FBAD2D973F9/0/cm6269_future_capabilities.pdf

[10] Sir Robert Scott to Harold Watkinson, 'Strategic Deterrent Policy', February 1962, National Archives, DEFE 7/2143

[11] This notes the following security assurance given unilaterally by the UK in 1995 to all NPT non-nuclear weapon states. "The United Kingdom will not use nuclear weapons

against non-nuclear States Parties to the Treaty on the Non-Proliferation of Nuclear Weapons except in the case of an invasion or any other attack on the United Kingdom, its dependent territories, its armed forces or other troops, its allies or on a State towards which it has a security commitment, carried out or sustained by such a non-nuclear weapon state in association or alliance with a nuclear-weapon state". Currently, the only states not covered are China, (DPRK?), France, India, Israel, Pakistan, Russia and the United States