Evidence submitted to the Trident Commission by Profs. Keith Barnham, David Caplin, Tom Kibble and Jenny Nelson, Imperial College, London

Summary

British nuclear weapons (NW) have never had credible independent military value. They were acquired and have been maintained as an expensive exercise in political and diplomatic prestige, primarily to impress and influence allies rather than deter adversaries. Whether that approach was ever worthwhile is questionable, but it is certainly no longer valid.

A decision to replace Trident in any form would not only undercut non-proliferation, but would undermine Britain's credibility to act on key international issues, such as climate change. It would also represent a hugely wasteful financial commitment at a time when conventional defence and other budgets are under intense pressure.

1. What are the most important strategic security threats facing the United Kingdom today and what are the significant trends that might change this threat profile over the next quarter century?

Since the demise of the Soviet Union the likelihood of conflict between nuclear superpowers has greatly diminished, and is likely to remain small for the foreseeable future (although we would argue that were superpower tensions to increase, British NW would be unhelpful). Direct threats to the UK from emergent nuclear powers also seem improbable; if their weapons were ever used it would be more likely to be in the context of regional conflicts (e.g. in South Asia). Rather, the security threats to the UK centre on energy supply, international terrorism, and the consequences of conflicts elsewhere triggered by shortages of water, food, oil, etc., aggravated by climate change, and possibly involving mass migration.

2. Are nuclear weapons still relevant and cost effective for the security of the United Kingdom in this context?

In the decades since 1945 nuclear weapons have never helped nuclear powers in conflicts with non-nuclear powers; they did not help the USA in Korea or Vietnam, the Soviet Union in Afghanistan, or indeed Britain in the Falklands. Nor would they be of any use in countering threats from international terrorism or defusing regional conflicts. It is impossible to believe that the UK on its own would ever *initiate* use of NW in the face of non-nuclear provocation.

If the rationale for retention of British NW is to be deterrence against threats from a nuclear-armed superpower, as it was during the cold war era, the credibility of that claimed deterrent effect has to be examined. The Quinlan doctrine justifying UK NW asserted that they created additional uncertainty in the mind of any potential (superpower) adversary. While this doctrine may have provided some intellectual comfort in the upper echelons of government, in our view it was exceedingly dangerous, and therefore totally irresponsible. Within a conventional weapons scenario, it may well be that to create uncertainty in the mind of the adversary is tactically advantageous. With NW, the response to uncertainty has to be to assume the worst case, so that there is overriding pressure on the adversary's missile forces to "use them or lose them".

It follows that NW are supremely cost-ineffective and utterly irrelevant for the UK.

3. How relevant are nuclear weapons in the twenty first century to Britain's ability to shape the global rules in ways that will enhance UK and global security?

In the 21st century, Britain's power on the global stage, especially militarily, is very limited, NW or no NW. We can still exert significant influence by working through international bodies such as the EU and the UN, concentrating on diplomatic efforts to eliminate causes of conflict, and playing a constructive role in key arenas such as climate change. Our ability to do so would be enhanced rather than diminished by a decision not to replace Trident in any form.

4. If the United Kingdom does decide to renew its nuclear weapons system is it wise to do so in close partnership with the United States or should it seek to pursue closer nuclear cooperation with France?

It is interesting to reflect that while in Britain there are some who argue that continued possession of NW is a central plank of US – UK relations, for the French their NW symbolise their (Gaullist) independence of the US.* In the 2010s, it is difficult to believe that either approach to NW plays a key role in US foreign relations (in contrast to, for example, intelligence facilities shared between the US and the UK).

The UK NW programme is interwoven with that of the US to the extent that it cannot be regarded as fully-independent. This linkage is risky and unwise; further, it continues the disregard of Article 1 of the NPT "Each NW state....undertakes not to transfer to any recipient whatsoevercontrol over such weapons". British NW technologists value greatly their ongoing close links with their US counterparts, but it is doubtful whether they actually have much influence on US strategic policy; their views should be given little weight in the debate on the future of UK NW.

As to cooperation with France, there might be fruitful interaction on safety and verification issues. Anything further would undermine nuclear non-proliferation, and should be ruled out definitively.

5. What more can the UK do to promote multilateral nuclear disarmament and non-proliferation around the world?

UK contributions to promotion of multilateral nuclear disarmament and non-proliferation will be totally overshadowed by any decision to elect for replacement of the current generation of NW; it is obvious what signals that would send.

In the context of a decision not to replace, and even without any immediate UK disarmament, there would be a much more receptive attitude to UK input to non-proliferation, particularly in areas such as verification, where the UK has considerable expertise.

6. What impact would a UK decision to disarm have on wider global moves to strengthen the non-proliferation regime and promote nuclear disarmament?

If Britain retains NW on the grounds of "the highly unlikely but utterly desperate contingency of a direct nuclear threat" (Tony Blair), how can we possibly exhort other states, particularly those (for

^{*} That approach is now being challenged. See "Pour un désarmement nucléaire mondial", Alain Juppe (former Prime Minister), Bernard Norlain (former Commander of French Air Force), Alain Richard (former Minister of Defence) and Michel Rocard (former Prime Minister), Le Monde 15 October 2009.

example, Japan, Iran) that have a history of tension with nuclear powers, to continue indefinitely to remain non-nuclear?

It would be naïve to anticipate that a UK decision to disarm would immediately trigger a like response by other NW powers. However, it would give the UK the credibility and authority to assist in reducing risks in the immediately-dangerous areas, particularly South Asia and the Middle East.

Keith Barnham **David Caplin** Tom Kibble F.R.S. Jenny Nelson **Emeritus Professor of** Emeritus Professor of **Emeritus Professor of Professor of Physics Theoretical Physics** Imperial College **Physics Physics** Imperial College Imperial College Imperial College London London London London

(Affiliations given solely for identification; these are our personal views)

March 2011

Contact:

Prof. A D Caplin Blackett Laboratory Imperial College London SW7 2BW, UK

Tel: +44 (0)20 7594 7608 (Secretary: 7594 7579)

d.caplin@imperial.ac.uk