



# BULLETIN

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Editors: Marcin Zaborowski (Editor-in-Chief), Agnieszka Kopeć (Executive Editor),

Łukasz Adamski, Beata Górka-Winter, Leszek Jesień, Łukasz Kulesa,

Marek Madej, Beata Wojna, Ernest Wyciszkievicz

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## Choices for the UK Nuclear Deterrent

by Gareth Chappell

*Cuts in public spending have brought the “like-for-like” replacement of the UK’s nuclear deterrent, based on the Trident missile system in the firing line. A number of alternatives have subsequently been proposed. In theory, Franco-British cooperation would appear to be the better of the choices. In practice, however it could prove problematic. Rather than split the difference, i.e. compromise credibility for savings in cost, the case for zero should be genuinely considered.*

The UK is in an age of austerity. In 2009/10 its budget deficit hit a record £155bn (11% of GDP). Its total debt is expected to reach £900bn (70% of GDP) in the next few years. This reality has reignited the debate over the “like-for-like” replacement (i.e. an exact replacement) of the UK’s nuclear deterrent, based on the Trident missile system on account of the cost involved (one report estimates a capital cost of £36–45bn and £57–81bn inclusive of operational costs over 25yrs) and the subsequent impact this could have on conventional capabilities. In July 2010, the Treasury insisted that the capital cost of replacing Trident must be taken as part of the core defence budget, which for 2010/11 stands at around £37bn. Consequently, a number of alternatives have been put forward.

**The Existing System.** The UK’s nuclear deterrent is based on the three components of the Trident missile system. This consists of four Vanguard-class submarines (SSBNs), carrying a maximum of 48 nuclear warheads, which are mounted on up to 16 Trident II (D5) ballistic missiles (SLBMs). A sub-maritime platform minimises its vulnerability to a pre-emptive attack. Four SSBNs ensure that one is at sea on patrol at all times (known as “continuous at-sea deterrence” or “CASD”). The D5 SLBMs can be launched from anywhere in British or international waters at a range of 7,500–11,000km depending on the size of the payload. The D5 SLBMs travel exo-atmospherically at hypersonic speeds, making them virtually impossible to intercept.

**The Substitutes.** Previous debates focused on the alternatives to a sub-maritime-based platform. However, land- or aircraft-based substitutes were discarded on account of their vulnerability to a pre-emptive attack and their higher capital and operational costs, not to mention both would have been opposed by local populations. The debate then shifted to a sub-maritime-based platform armed with cruise missiles as opposed to the D5 SLBMs. Yet cruise missiles are said to be less effective. They have a much shorter range (e.g. 2,400–2,900km), a smaller payload (e.g. they carry only one warhead) and are more vulnerable to interception because of their slower speed and lower altitude. All told, the submarine would have to be closer to the target and so at greater risk, more missiles and perhaps more submarines would be required to deliver the same effect and a larger number of missiles and warheads would be necessary to ensure reliability and sufficient penetration. In terms of cost, developing a new cruise missile, including nuclear warhead and supporting infrastructure, is also said to be more expensive, indeed “astronomical.” To cut costs, the UK could buy a nuclear-armed Tomahawk cruise missile “off the shelf” from the U.S. However, this is unlikely, as it could undermine the U.S. commitment to the “Non-Proliferation Treaty.”

**A Relaxed or Non-CASD Posture.** The present debate centres on whether the UK’s current CASD posture can be relaxed or ended. A “relaxed-CASD” option would consist of three SSBNs based on CASD in principle, but with the increased risk of short interruptions in the event of unforeseen mishaps (e.g. the collision between British and French SSBNs in the Atlantic in February 2009). A reduction of one SSBN could save an estimated £3–4.3bn in capital costs, excluding the savings

associated with a comparable reduction in the overall running costs and in the number of warheads and SLBMs. This option could also delay the start of successor SSBN production and, in turn, peak spending. A “non-CASD” option would consist of three or even two SSBNs based on a non-CASD posture, but with the ability to “surge” for a significant, though not indefinite period of time. Again, a reduction in SSBNs could cut costs and push back peak spending. A third option put forward is “dual-capable” submarines tasked with both conventional and nuclear missions. One report proposes three “hybrid” SSGNs/SSBNs, each armed with 6 D5 SLBMs based on a “relaxed-CASD” posture, and estimates a subsequent saving of £4–7bn inclusive of capital and operational costs over 25yrs. All three options would appear to be cheaper. Still, there is doubt over their credibility. A “relaxed- or non-CASD” posture would increase the SSBN’s vulnerability to a pre-emptive attack. Also, both could potentially escalate a crisis and increase the risk of conflict. The decision to sail a SSBN during a crisis without the proper signalling could be misinterpreted by an adversary.

**The French Option.** In March 2010, French President Nicolas Sarkozy floated the idea of creating a joint Franco-British nuclear deterrent by sharing patrols (i.e. either a French or British SSBN would be at sea on patrol at all time). His British counterpart rejected the idea at the time on the grounds that it would be politically unacceptable in an election year. Still, Franco-British nuclear cooperation appears to offer both a credible and cheaper option. Like the UK, France has four Triomphant-class SSBNs, each armed with SLBMs and based on a CASD posture. Sharing patrols would mean that the UK could reduce its number of SSBNs to three or even two and still maintain a CASD posture. This could cut costs and push back peak spending. The associated reduction in the number of warheads would also tie in nicely with the Obama administration’s determination to make progress towards global zero.

In theory, this option would appear to be the better of the choices. But in practice it could prove problematic. Above all, critics would argue that sharing patrols would undermine the independence of the UK’s nuclear deterrent and place the security of the nation in the hands of the French. Yet the existing system is arguably not independent. The UK is dependent on the U.S. to supply D5 SLBMs. Such an arrangement could also be politically unacceptable. That said, the current financial context and the subsequent cuts in public spending offer a window of opportunity. The British general public is never going to be more amenable to the idea than at present, especially if the “like-for-like” replacement of Trident prompts spending cuts in health and education for example. Resistance would likely be stronger across the Channel. The independence of *la force de frappe* is prized. Still, France would maintain an independent nuclear deterrent in the form of its nuclear-armed aircraft. Harder to overcome would be the practical problems (i.e. the unity of threat assessment, the formal decision-making procedures and the possible sharing of classified information, especially as this may involve the U.S.).

**The Case for Zero.** Unilateral disarmament is not likely in this Parliament (i.e. until May 2015). The collation programme commits the incumbent government to the renewal of Trident in some shape or form. Still, it could emerge as a possibility in the next Parliament should, as reports suggest, the “main gate” decision be postponed until after the next general election and the Conservatives fail to take office. Critics would argue that unilateral disarmament would have a number of adverse consequences in relation to the UK’s security, international influence (i.e. its seat on the United Nations Security Council), submarine-building industry and its bilateral and multilateral partnerships. Yet there is a strong case for zero. The threat of a pre-emptive nuclear attack on the UK is minimal. In any case, the UK as a member of NATO is covered by the U.S. nuclear umbrella. This would mean greater dependence on the U.S., but—as mentioned above—this is nothing new. Structural shifts in the international system already mean that the UK’s seat on the UNSC is increasingly untenable regardless of its status as a nuclear power, and the preservation of industry is neither a legitimate reason to maintain a nuclear deterrent nor worth an average annual expenditure of £2.3–3.2bn over 25yrs on its own. In terms of bilateral and multilateral partnerships, the U.S. would likely prefer a non-nuclear UK with credible conventional capabilities than the contrary, and the defence of NATO would be secured by the U.S. nuclear umbrella.