

## British nuclear forces, 2006\*

The UK possesses an arsenal of about 185 warheads for use by a fleet of four Vanguard Class Trident SSBNs. It leases a total of 58 Trident II (D-5) SLBMs, including spares, from the US Navy. Under normal circumstances one British SSBN will be on patrol, carrying up to 48 warheads on 16 D-5 missiles. The second and third SSBNs can be put to sea fairly rapidly, with similar loadings, while the fourth would take longer because of its cycle of extensive overhaul and maintenance. With the end of the cold war, the SSBN on patrol is maintained at a level of reduced readiness with a 'notice to fire' measured in days, and its missiles are de-targeted. There are reports that some patrol coordination takes place between the UK and France.

The first British Trident submarine, HMS *Vanguard*, entered service in 1994. In December 2004 it emerged from the Devonport Naval Base after undergoing a three-year Long Overhaul Period (Refuel). On 10 October 2005 *Vanguard* successfully launched a D-5 SLBM in the final phase of its Demonstration and Shakedown Operations (DSAO).<sup>1</sup> The Ministry of Defence did not specify when the vessel would resume operational patrols. In January 2005, HMS *Victorious* arrived at the Devonport Naval Base for a major refit, including a refuelling of its nuclear reactor. This meant that for most of 2005 only two SSBNs in the fleet—*Vigilant* and *Vengeance*—were available for operational deployment.

**Table 1.** British nuclear forces, January 2006

Type	Designation	No. deployed	Year first deployed	Range (km) <sup>a</sup>	Warheads x yield	Warheads in stockpile
<i>SLBMs</i>						
D-5	Trident II	48	1994	>7 400	1–3 x 100 kt	185 <sup>b</sup>

<sup>a</sup> Aircraft range is for illustrative purposes only; actual mission range will vary according to flight profile and weapon loading.

<sup>b</sup> Fewer than 200 warheads are operationally available, c. 144 to arm 48 missiles on 3 of 4 SSBNs. The operational stockpile may consist of 185 warheads. Only 1 boat is on patrol at any time, with no more than 48 warheads.

*Sources:* British Ministry of Defence (MOD), Press releases and the MOD website, URL <<http://www.mod.uk/issues/sdr/index.htm>>; British MOD, *Strategic Defence Review* (MOD: London, July 1998); British House of Commons, *Parliamentary Debates (Hansard)*; Ormond, D., 'Nuclear deterrence in a changing world: the view from a UK perspective', *RUSI Journal*, June 1996, pp. 15–22; Norris, R. S. et al., *Nuclear Weapons Databook, vol. 5: British, French, and Chinese Nuclear Weapons* (Westview: Boulder, Colo., 1994), p. 9; 'NRDC Nuclear Notebook', *Bulletin of the Atomic Scientists*, various issues; and Authors' estimate.

\* Excerpt from Shannon N. Kile, Vitaly Fedchenko and Hans M. Kristensen, 'World nuclear forces', SIPRI Yearbook 2006: Armaments, Disarmament and International Security, (Oxford University Press: Oxford, 2006).

<sup>1</sup> 'Vanguard prepares to rejoin UK Royal Navy Trident fleet', *Jane's Missiles & Rockets*, vol. 9, no. 12 (Dec. 2005), pp. 1–2.

The four Vanguard Class SSBNs will operate for almost two decades before their nominal retirement date. However, owing to the lengthy procurement process required for complex weapon systems (15 years in the case of the Trident system), Secretary of State for Defence John Reid told the House of Commons in July 2005 that ‘decisions on any replacement of the United Kingdom’s are likely to be necessary in the lifetime of the current Parliament, which will of course last some years’.<sup>2</sup> Reid later told the Commons Defence Committee that the government intended to retain ‘Britain’s minimum nuclear deterrent’ for an unspecified period, pointing out that the UK ‘has always maintained that as long as some other nuclear state which is a potential threat has nuclear weapons we will retain ours’.<sup>3</sup> Critics of the government, including some Labour Party parliamentarians, alleged that the decision had already been made to replace the Trident with a new generation of nuclear weapons—at an estimated cost of up to £20 billion (\$35 billion)—without a public debate on whether the UK still needed a nuclear deterrent.<sup>4</sup>

The Ministry of Defence has confirmed that it is considering a range of options for replacing the Trident. These include options involving land- and air-based delivery systems as well as submarines.<sup>5</sup> In July 2005 the MOD announced a new, three-year, £1.05 billion (€1.5 billion) investment to upgrade the Trident missile warhead facilities at the Atomic Weapons Establishment (AWE) at Aldermaston and Burghfield. The purpose of the investment is to ensure that the ‘existing Trident warhead stockpile is reliable and safe’ and can be ‘maintained throughout its intended in-service life’.<sup>6</sup> MOD officials have denied reports that the facilities might be used to develop new nuclear weapons.

<sup>2</sup> Reid, J., Secretary of State for Defence, Oral answers, 4 July 2005, House of Commons, *Hansard* C5, URL <[http://www.publications.parliament.uk/pa/cm200506/cmhansrd/cm050704/debtext/50704-02.htm#50704-02\\_sbhd0](http://www.publications.parliament.uk/pa/cm200506/cmhansrd/cm050704/debtext/50704-02.htm#50704-02_sbhd0)>.

<sup>3</sup> Reid, J., Secretary of State for Defence, Oral evidence before the Select Committee on Defence, 1 Nov. 2005; as reproduced in House of Commons Paper 556-i (Session 2005-06), 17 Jan. 2006, URL <<http://www.publications.parliament.uk/pa/cm200506/cmselect/cmdfence/556/5110101.htm>>.

<sup>4</sup> McSmith, A., ‘Revealed: Blair’s nuclear bombshell’, *The Independent* (Internet edn), 18 Oct. 2005, URL <<http://news.independent.co.uk/uk/politics/article320124.ece>>; and ‘Labour MPs debate Trident scheme’, BBC News Online, 31 Oct. 2005, URL <<http://news.bbc.co.uk/1/4392050.stm>>.

<sup>5</sup> Kirkup, J., ‘UK nuclear defence up in the air’, *The Scotsman* (Internet edn), 29 Oct. 2005, URL <<http://news.scotsman.com/uk.cfm?id=2164822005>>. For an overview of the options for a future nuclear deterrent see Willet, L., ‘Questions for the debate on the future of the UK strategic deterrent’, *RUSI Journal*, vol. 150, no. 6 (Dec. 2005), pp. 50–57.

<sup>6</sup> Reid, J., Secretary of State for Defence, Oral answers, 19 July 2005, House of Commons, *Hansard* C60WS, URL <<http://www.publications.parliament.uk/pa/cm200506/cmhansrd/cm050719/wmstext/50719m03.htm>>.