

UK involvement in new missile project

On 3 December Des Browne acknowledged in a written answer that his Department are speaking with their US counterparts about a new missile system which is due to replace Trident -

"Nick Harvey: To ask the Secretary of State for Defence what meetings have taken place between UK and US officials on concept studies for the development of a new missile system to replace Trident with particular reference to the underwater launched missile system in the last three years. [168881]

Des Browne: Since the vote in this House on the future of the UK nuclear deterrent on 14 March 2007, there have been three meetings of the Joint Steering Task Group that oversees the execution of the Polaris sales agreement. Concept studies for the development of a new underwater launched missile system have been discussed by officials at those meetings"

US plans to replace Trident

The US Navy are expected to order the first their next class of submarine, SSBN-X, in 2019.¹ The in-service date of the new system is likely to be 2029, when the oldest nuclear-armed Ohio class submarine is decommissioned. The concept studies for SSBN-X are also looking at a new missile system, the Underwater Launched Missile System (ULMS).² The target in-service date for ULMS is probably 2029.

The initial studies for ULMS will consider conventional as well as nuclear roles for the new missile.³ This will require a higher degree of accuracy than can be achieved with the current Trident D5 missile and Mk4A Re-entry Vehicle (RV). Lockheed Martin have developed an Accuracy Adjunct for the Trident RV. This manoeuvrable RV provides a significant increase in accuracy. It is the basis of the proposed Conventional Trident Modification. It is likely that further research and development in this area will be a significant part of the ULMS project.

Published outline specifications for a replacement land-based ICBM suggest other new capabilities that the ULMS study is likely to address. These include in-flight re-targeting, improved penetration of missile defences, increased range and heavier payloads.⁴

On 13 November 2007 the Strategic Advisory Group, which advises US Strategic Command, was briefed by their Next SSBN Task Force.⁵ This meeting discussed the capabilities required of SSBN-X and ULMS. They probably considered how many submarines would be required and how many missiles and warheads each would carry. Funding for prototyping of SSBN-X and ULMS is likely to be sought for FY2009 or FY2010.

¹ Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress, Updated 12 June 2007, Ronald O'Rourke, Congressional Research Service, page 6. Options for the Navy's Future Fleet, Congressional Budget Office, May 2006, page 16.

² Advert for Senior Strategic Weapons Effects Analyst to work at Systems Planning and Analysis. www.spa.com

³ US Study Panel Eyes New Nuclear Weapons Submarines, Elaine M Grossman, Nuclear Threat Initiative, 14 September 2007. www.nti.org

⁴ Final Mission Need Statement, AFSPC 001-00, Land-Based Strategic Nuclear Deterrent, 18 January 2002, US Air Force

⁵ US Study Panel Eyes New Nuclear Weapons Submarines, Elaine M Grossman, Nuclear Threat Initiative, 14 September 2007. www.nti.org

The costs of developing ULMS will be substantial. In the case of Trident, the issue of the UK's contribution to Research and Development costs was controversial.

Options being considered by UK

The MoD have said they are considering two options:

- Initially deploy Trident and later switch to a new missile.
- Deploy Trident throughout the planned life of the new submarines,

Current plans are that Trident will be withdrawn from service in the US Navy around 2042. This will be just over half way through the total lifespan of the new British submarine system.

The Royal Navy continued to deploy Polaris many years after the missile had been withdrawn from service with the US Navy. But Trident is different. Maintenance work on Polaris missiles, including re-motoring, was carried out in Coulport. There is no significant maintenance work on Trident missiles carried out in the UK. Overhauls take place in the United States. There are no distinctly British Trident missiles. British submarines are armed at Kings Bay in Georgia with missiles drawn from a common US/UK pool. The experience with Polaris also illustrated the difficulties of keeping an old system in service. At one point US personnel had to be recalled from retirement to help manufacture replacement rocket motors.

If the UK continues to deploy Trident for 15 years after it is withdrawn from service in the US Navy, then the UK will have to pay the substantial costs of the maintenance and overhaul system in the US. It is likely that a second Life Extension programme for the missiles would also be required.

If the new UK submarines are initially deployed with Trident and then later with ULMS then there will be significant additional costs. The hardware purchased for the Trident system will only be in service for half of the life of the submarine system. It is likely that substantial modifications will then be required to install ULMS.

There is a third option, which has not been discussed, to deploy ULMS from the start. This was not mentioned as an alternative in the White Paper on the Future of the UK's Nuclear Deterrent. However it is likely that the MoD will have assessed the advantages and disadvantages of this option. It would mean extending the life of Vanguard class by a further 5 years and delaying the in-service dates of the new submarines to match those of SSBN-X. This in turn would postpone the start-date for design work on the new vessels.

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4 December 2007