

Britain setting parameters for future US nuclear missiles

The future shape of the US nuclear weapons programme should be set by a series of reviews between 2008 and 2010. It might be expected that only after these reviews would the Department of Defence determine what role there was for submarine-launched missiles and what missions they are expected to carry out in future decades. However a meeting of the Public Accounts Committee of the House of Commons on 19 November indicated that the British government are setting the pace for the US submarine programme.

While the replacement for the US Ohio class is not required until 2028/29, the Royal Navy's equivalent is due to be in service by 2024. The Ohio replacement, SSBN-X, will carry a new missile. Concept work for the new system is being carried out under the Underwater Launched Missile System (ULMS) programme. However the British successor submarine will initially be armed with Trident. This means that the launch tubes for the British submarine have to be designed for Trident. At the recent Parliamentary meeting Ministry of Defence (MoD) officials disclosed that a Common Missile Compartment is being designed for both the British Successor and for SSBN-X. A total of over 300 missile tubes are planned and the first two boat-sets are to be delivered to the UK. The MoD are hopeful that the exact specifications for this Common Missile Compartment will be set early in 2009.

A Request for Information from industry for a launcher test stand for ULMS suggests that the Department of Defence were planning to consider a wide range of options. The testbed will not be restricted to the Trident diameter of 87 inches and will be able to test concepts with diameters between 32 inches and 120 inches. The RFI states -

“Although near term demonstrations will be based on the 87 inch diameter missile tube, smaller missiles than the D5 are likely to be demonstrated. Additionally, concepts for future submarines may have missile tubes larger than 87 inch in diameter”¹

If the missile specifications are fixed early in 2009 this will prescribe the capabilities of the new ULMS missile before the basis mission and requirement has been established. Because the missile dimensions are crucial to submarine design, this will also affect the cost of SSBN-X. If they rule out a smaller missile they are also ruling out the possibility of building a cheaper submarine.

Attached is a partial transcript of the Public Accounts Committee hearing on the UK's Future Nuclear Deterrent Capability from the online video of the meeting.

¹ Federal Business Opportunities RFI for Launcher Test Stand 30 January 2008
https://www.fbo.gov/index?s=opportunity&mode=form&tab=core&id=99ff5b3701e2f027ea2ad4efd061280&_cvview=0

Public Accounts Committee 19 November 2008

Partial transcript from video at

<http://www.parliamentlive.tv/Main/VideoPlayer.aspx?meetingId=2866>

[18.35]

Nigel Griffiths MP:

What happens if they [US] make a design breakthrough and require a larger or smaller replacement for the Trident D5 ? - How does that affect – larger I assume it couldn't launch – smaller – can it launch a smaller missile ?

Sir Bill Jeffrey (Permanent Under Secretary, Ministry of Defence):

I'd like to bring in Admiral Matthews on this, but there are two broad answers – the first is the one I gave the Chairman earlier which is that at the highest political level we have an undertaking about compatibility – the second is in recent months, and I have been involved to a degree myself in these, there have been discussions with the Americans about work together on a common missile compartment which ought to de-risk this issue in the slightly longer term - the Admiral might want to say a word or so –

Rear Admiral Matthews (Director General Submarines):

One of the enduring strengths of this programme has been our relationship with the Americans on the missile system, whether it is Polaris, Trident or into the future with this system and both countries recognise that - and as you rightly point out this significant risk of being ahead of the Americans is one that we have to manage - and the way that we are going to do that is that **the Americans have brought forward their Ohio replacement programme to align the dates with ours now** and we are currently working on what we call a common missile compartment on the design. We are going through the approvals process in the UK, just as the Americans are going through the approvals process on the other side of the Atlantic. Our aim is to develop a common missile compartment that would fit both submarines and what we are looking to do is future-proof, beyond that 2042 date, if there is a decision to change from the Trident D5 Life Extended missile to another generation missile, both countries will have identical missile compartment and will be able to take that future missile design whatever it is. So one of the things we are looking at in that design is what flexibility we need to incorporate into it.

[33.45]

Guy Lester (Director of General Equipment):

In the run up to Initial Gate next autumn there will be a range of decisions to be taken and we are coming up to one on the specifications of the common missile compartment and then the next big issue is the design of the propulsion plant which will go into the new submarines

[34.20]

Rt Hon Keith Hill MP:

So the two decisions you are about to take are on the missile compartment and the propulsion, how are things panning out in relation to those decisions ?

Guy Lester:

On the missile compartment they are panning out fine, in the sense that we are in negotiation with the Americans. Our requirements are converging and **we hope very early in the new year to reach an agreement with the Americans both on our financial contribution and on the exact specifications of the missile compartment** to provide us with the long term guarantee of compatibility that Bill was talking about earlier. On the propulsion plant that is from my point of view the most tricky issue we have to deal with in the run up to Initial Gate.

[1.06.00]

Sir Bill Jeffrey:

We need to replace the Vanguard submarines earlier than they need to replace their equivalent.

Ian Davidson MP:

So if they [US] take their foot of the gas in order to save money which is entirely understandable given the financial pressures they might be under then that is going to impact much more on us that it is on them so what guarantees do we have that they won't do that ?

Sir Bill Jeffrey: I may be misreading this, but my colleagues will tell me if I am, but I don't think what we are doing is dependent on the pace of their replacement programme. It is dependent on the quality of the cooperation particularly over the important issue of the missile itself and the missile compartment and that cooperation is of a very high quality.

Rear Admiral Matthews:

The common missile compartment is the nub of this question. That is the piece of equipment that we need from the US. We haven't designed it in the past it has traditionally been a ... from the US because they are ahead of us in the Polaris system and the Trident system. We are in a different place here. The exchange of letters between the Prime Minister and the President and subsequently between the Secretary of State for Defence and Secretary of Defence in the US have underpinned the continuing relationship under the Polaris Sales Agreement. That is an international treaty that gives us significant protection in the US commitment to us. The Americans are committed to delivering the common missile compartment design to us. They are on the programme with us, they are working with us. You are right there is some risk to them – to us – if they don't deliver but in terms of going down a separate road of UK design, to design our own missile compartment which would still take the Trident D5 missile which the US would then insist on underwriting in terms of certification through a complex testing programme – this [US design] is the best value for money deal that we'll get.

[1.18.00]

Austin Mitchell MP:

But we are dependent on them for the missiles, we have problems there about the size of the missile part of the submarine which is dependent on what they decide for their purposes, it's not what we need.

Sir Bill Jeffrey:

But as we've said earlier there are some very constructive discussions about the common missile compartment and means of making sure that we don't come adrift of their thinking

Rear Admiral Matthews:

There are significant advantages to being in advance of the Americans rather than buying in at a late stage. One is we can influence decisions. Secondly there are much more opportunities for UK industry to compete on a level playing field in the market of the future missile compartment in the past we've bought an American design

[1.19.25]

Austin Mitchell MP:

The Americans are perfectly capable of ditching us as they did with Polaris. We are dependent on them for the size and design of the missile compartment. At what stage of the design can you change it ?

Sir Bill Jeffrey:

The purpose of the discussions is to agree on the approach to a common missile compartment that we would adopt in our successor submarines and that they would in due course adopt in theirs with an eye to getting the dimensions right in both cases.

[1.20.15]

Austin Mitchell MP:

CND have submitted some ideas to us and they say that the MoD is not serious when they suggest that they could keep the Trident D5 missiles throughout the life of the new submarine, until 2055. Are you serious in saying these could be kept on ?

Sir Bill Jeffrey:

I don't think we are saying that. I think one of the things that underlies this whole approach is our realisation that even assuming, as is a fair assumption, the D5 missile is extended - the extension will take us only part way into the projected lifetime of our successor deterrent and that is the reason we are thinking now with the Americans about what happens after that.

[1.31.00]

Edward Pearce MP (Chair):

I am extremely concerned about this point that we are going to finish – we are going to have to design these submarines before the Americans make a final decision on the design of the missile compartment which appears to be an absolutely crucial point ... it is something which is worrying us because there is absolutely no room for manoeuvre here because these things have to be delivered on time and what worries me is we are such a minnow compared to the Americans, they are taking such vast decisions compared to us, that I would think our bargaining position with them, if there is any problem with the design of the missile compartments, is quite weak. But it is only fair that the Admiral has the last say.

Rear Admiral Matthews:

To give you a feel for the programme, Mr Chairman. Our aim is that we are going to build these missile compartments with the Americans. We haven't decided where we are going to build them. It might be UK, it might be the US, it might be both. ... This

is an ongoing piece of work. **But just to give you a feel of how these missile compartments come out – number one and two will be for UK, number three will be for the US.** So that US missile compartment will be in construction when the first compartment is delivered to the UK .. so they will have to make design decisions –

Edward Pearce MP:

So they will be built in America, we now think, we haven't heard this before

Rear Admiral Matthews:

What I have said is – we haven't made a decision about where we are going to build them because that is – when I say that there are a number of options for us about how we do this – if we are building between 3 and 4 for UK, probably between 12 and 16 for the US – how do you productionise this ? **If you count the number of missile tubes it is over 300 missile tubes** – how do you productionise that ? – how do you drive out cost and make sure you design for productionisation at the start – those are all the questions that we have got to go through having made the decisions.

Sir Bill Jeffrey:

The reason the Admiral reacted as he did is that **the whole point of the discussions we are having now with the Americans about the common missile compartment is in essence is to advance that crucial decision so that it is taken in time to influence our build as well as theirs,** allowing for the fact that they will be replacing later than we are.