

Trident Replacement Initial Gate

Summary

Like all other major defence projects the programme to replace the fleet of Trident submarines has two major decision points. The first of these is the Initial Gate. This marks the end of the concept phase and the start of assessment and initial design. The second is the Main Gate at the start of production. The Main Gate decision is not due until between 2012 and 2014.

In November 2008 it was assumed that the Initial Gate decision would be approved, with formal endorsement from the Investment Approval's Board, in September 2009. During the course of 2009 it became clear that the decision had been put off until the end of the year. Then in October the Defence Minister, Bob Ainsworth, said that what would be considered, before the end of the year, was "the work required during the concept phase". This implies that the concept phase would continue into 2010. Just before the Christmas recess Mr Ainsworth said further time was required to make a decision based on robust information.

A detailed report was submitted to the Defence Board for their meeting on 26 November. A summary of decisions taken at this meeting says that the Investment Approvals Board would consider the matter in July 2010. If correct, this would mean that the Initial Gate had been postponed until July. However an MoD spokesperson said that this wording was based on a draft minute of the Defence Board meeting and "did not fully describe the position". The minute is being amended.

From the Defence Board summary it is clear that a number of challenges remain. It is likely that one of these is the cost of developing a new PWR3 reactor.

Initial gate announcements

5 November 2008 – National Audit Office

"The Department is engaged in a two-year concept phase to develop the design requirements targeted towards a submission for Initial Gate approval in September 2009"¹

19 November 2008 - Rear Admiral Matthews, Director General Submarines –

".. we are quite confident about delivering an outline design, a set of options for the Investment Approvals Board to take at Initial Gate in the autumn of next year"²

20 November 2008 – Quentin Davies –

"In accordance with the usual practice on major procurement projects, the first full progress report [to Parliament] on the programme to maintain the UK's nuclear deterrent will be made after the Initial Gate for the new class of submarines. We expect to publish this report in autumn 2009."³

26 November 2008 – Quentin Davies –

"The next major approval point is the platform's Initial Gate when the MOD Investment Approvals Board will decide if it is ready to enter the assessment phase that leads to the Main Gate decision point."⁴

¹ The United Kingdom's Future Nuclear Deterrent Capability, National Audit Office, HC1115 2007/08, 5 November 2008, para 2.2

² Committee of Public Accounts on 19 November 2008 (discussing the NAO report)

<http://www.publications.parliament.uk/pa/cm200708/cmselect/cmpubacc/uc1154-i/uc115402.htm>

³ Hansard Commons 20 Nov 2008 Col 672W, Reply to question from Dai Davies

"The first state of MOD's approval process (known as Initial Gate). Our current plan remains to consider an approvals case in the Autumn. We will of course continue to review the most appropriate time to consider the case"⁹

28 August – Bill Rammell -

"The first stage of the MOD's approvals process (known as Initial Gate) will be reached later this year".¹⁰

September 2009 – Bill Rammell -

"There has not been a decision to delay the Initial Gate approval to May 2010".¹¹

14 September 2009 – Bill Rammell –

"A decision on reactor design for the future deterrent has not yet been taken. Like other key decisions on the future deterrent, this decision will ultimately be taken by Ministers. The Defence Board will consider the work required during the Concept Phase later this year."¹²

2 October 2009 – Bill Rammell –

"The first stage of the MOD's approval process (known as Initial Gate) will be reached later this year"¹³

28 October 2009 – Bob Ainsworth –

"The Defence Board will consider the work required during the Concept Phase work later this year. There has been no decision to delay Initial Gate because of the Nuclear Non-Proliferation Treaty Review Conference in May 2010."¹⁴

10 November 2009 - Sir Bill Jeffrey (MoD PUS) –

"the 2006 White Paper set us first the task of assessing the requirement and doing preliminary work of a pretty important kind. That work is taking longer than we originally expected it to and we expect to be bringing it both to the Defence Board and to Ministers later this year. I unhesitatingly accept that there has been some delay in that.

"... It will be relatively soon. Exactly what decisions it will lead to is as yet not completely clear, but the issue will be coming forward for senior management."¹⁵

Asked whether there will be some report before the Christmas recess he said –

"I would expect so, but exactly how much we will be able to say it is hard to predict at this stage."¹⁶

16 December 2009 – Bob Ainsworth –

⁹ Letter from Mark Taylor, Directorate of Deterrent and Under Water Capability, to a member of the public , 18 August 2009

¹⁰ Letter from Bill Rammell, 28 August 2009

¹¹ Letter from Bill Rammell to Kate Hudson, Chair CND, September 2009

¹² Hansard Commons, Reply to question from Angus Robertson

¹³ Letter from Bill Rammell, 2 October 2009

¹⁴ Hansard Commons, 28 Oct 2009 Col 377W, Reply to question from Nick Harvey

¹⁵ Evidence to Defence Committee, 10 November 2009.

¹⁶ Evidence to Defence Committee, 10 November 2009.

“We had originally planned to consider the Concept Phase in autumn, but further time has been required to ensure that we take decisions based on robust information. We are aiming to be in a position to make an announcement early in the new year.”¹⁷

Consideration of Trident Replacement by the Defence Board

30 October 2008

Agenda Item - “Nuclear overview. Policy Director will lead discussions – no papers expected in advance”. Jon Day (Policy Director), Guy Lester (DGE), RAdm Alan Richards (ACDS(Pol)), Nicholas Bennet (DG Strat Tech) and RAdm Andrew Mathews (DG SM) invited for this item.¹⁸

Summary - “On Nuclear issues, the Board welcomed the presentation by the Policy Director and in noting its content, agreed that it was important to have regular discussions on this important topic in future”.¹⁹

14 May 2009

Agenda item – “Nuclear Overview. DG Sec Pol will lead. No papers are expected in advance.” Jon Day (DG Sec Pol), Guy Lester (DER), RAdm Simon Lister (DSM), Cdre John Gower (Hd CBRN Pol) and Mike Baker (Asst Hd NST) invited for this item.²⁰

“On nuclear issues, the Board noted the content of the update it received from the Director General of Security Policy, and agreed to receive a further update in due course”.²¹

26 November & 10 December

Agenda item for 26 November - “Future Deterrent” – Defence Board (09)62 Paper by Cap DER to be issued.” Guy Lester (Cap DER), Jon Day (DG Sec Pol), RAdm Simon Lister (Dir SM), Mrs Carole Tolley (D Scrutiny), and VAdm Paul Lambert (DCDS(Cap)) invited for this item.

Report covering 26 November and 10 December meetings –

“The Board also took stock of progress on the successor submarine programme, and the challenges that remained before it could be initially considered by the Investment Approvals Board next July. The Board will continue to hold further discussions as work continues, and will look at nuclear matters more broadly at its January meeting.”²²

When asked if this meant that the Initial Gate was postponed until July an MoD spokesperson said -

“The language on the defence intranet was based on an early draft of the Defence Board minutes which did not fully describe the position – this will be amended when the final minutes are published.”²³

¹⁷ Hansard Commons, 16 Dec 2009 Col 1219W, Reply to question from Ann Cryer

¹⁸ Agenda for Defence Board meeting 30 October 2008

¹⁹ Summary of Defence Board meeting 30 October 2008.

²⁰ Agenda for Defence Board meeting 14 May 2009

²¹ Summary of Defence Board meeting 14 May 2009.

²² Report of Defence Board meetings on 26 November and 10 December 2009, obtained from MoD by Rob Edwards and published in Sunday Herald 10 January 2010

²³ Sunday Herald 10 January 2010

Key issues during the concept phase

In November 2008 the Audit Office identified three major decisions which needed to be taken during the concept phase:

1. The design and size of the missile compartment
2. The type of nuclear propulsion plant to be used
3. The high-level specifications of the submarine design including major trade-offs.²⁴

At the Public Accounts Committee meeting into this report Guy Lester was asked *about page 10* how things were ~~panning out with regard~~ to the first two areas. He said -

"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 specification of the missile compartment to provide us with the long term guarantee of compatibility that Sir 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, which is having enough evidence to judge the trade-off between initial costs, through life costs and risk to programme schedule between the different propulsion options that we are looking at."²⁵

This suggests that one of the main "challenges that remain" is the choice of the reactor. The Audit Office report explains -

"The timetable may also be affected by developments in pressurised water reactor technology. The Department needs to decide if it should use a variant of the current reactor design - PWR2 - or develop a new reactor - PWR3 - for the new submarine. There are risks attached to both of these options. The PWR2 reactor has the benefit of being based on existing technology, but will still require some updating to deal with obsolescent components and emerging regulatory requirements.

"The PWR3 proposal offers the prospect of a more efficient and cheaper reactor through life. This option nonetheless presents more of an immediate risk to the timetable, since it will require a major research and development effort, although work is underway to see how the risk can be minimised."²⁶

The PWR3 reactor would operate without cooling pumps.²⁷ Rear Admiral Matthews said that, as well as safety and cost, one advantage of this design is that it is quieter.²⁸

Is it worth noting that among those invited to the 26 November 2009 Defence Board meeting was Mrs Carole Tolley (D Scrutiny). The Scrutiny role in defence procurement is described as follows:

"Scrutiny provides an independent, expert and critical analysis of investment proposals, once approved by DE&S but prior to submission to the IAB. The Scrutiny team sit within MoD Centre and provide a notionally independent assessment prior to IAB submission of whether the evidence

²⁴ National Audit Office, HC1115 2007/08, 5 November 2008, para 2.8

²⁵ Committee of Public Accounts on 19 November 2008 (discussing the NAO report)

²⁶ National Audit Office, HC1115 2007/08, 5 November 2008, para 1.14

²⁷ Evidence from Steve Ludlam, Rolls Royce, to the Defence Committee, 7 November 2006.

²⁸ Speaking notes for Rear Admiral Matthews for the RUSI SubTech 08 Underwater Warfare Conference, 14 January 2008

submitted supports the business case proposal. Scrutiny tends to take a wider view than the assurance process and considers factors such as value for money, future planning and whether the proposal is relevant to current requirements.”²⁹

²⁹ Review of Acquisition for the Secretary of State for Defence, An Independent report by Bernard Gray, October 2009. Page 187

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26 November 2008 – Quentin Davies –

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23 March 2009 – John Hutton –

“The investment decision point, Initial Gate, for the new submarine class to replace Vanguard class is not expected until this autumn.”⁵

13 July 2009 – Bob Ainsworth –

“We currently expect to consider initial gate later this year”⁶.

17 July 2009 – Press Reports –

“Officials said this decision, along with the release of any public funds for the new deterrent had been delayed. ... no more money will be spent or decisions taken until after a conference on the nuclear non-proliferation treaty next May”⁷

“The official said: ‘All our deterrent is now up for grabs but in the context of a multilateral negotiation.’ By the ‘sequencing of expenditure’ on Trident, as the official put it, the decision could essentially be ‘pushed back’. However Downing street issued a statement which read: ‘The policy remains as set out in the 2006 White Paper, and there has been no change to the timetable’.”⁸

18 August 2009 – Mark Taylor (MoD) -

¹ The United Kingdom's Future Nuclear Deterrent Capability, National Audit Office, HC1115 2007/08, 5 November 2008, para 2.2

² Committee of Public Accounts on 19 November 2008 (discussing the NAO report)
<http://www.publications.parliament.uk/pa/cm200708/cmselect/cmpubacc/uc1154-i/uc115402.htm>

³ Hansard Commons 20 Nov 2008 Col 672W, Reply to question from Dai Davies

⁴ Hansard Commons 26 Nov 2008 Col 1560W, Reply to question from Peter Kilfoyle

⁵ Hansard Commons 23 Mar 2009 Col 19W, Reply to question from Nick Harvey

⁶ Hansard Commons 13 July 2009, Col 13, Reply to question from Danny Alexander

⁷ Daily Telegraph 17 July 2009

⁸ BBC News website 17 July 2009

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