



Update

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Type 45 Anti-Air Warfare Destroyer

The Type 45 Anti-Air Warfare Destroyer is one of the largest engineering and defence programmes in the UK. It is directly securing thousands of jobs across the UK in a wide variety of industries and will provide a cutting-edge naval air-defence capability to the Royal Navy.



A regular briefing on progress and key activity on one of the UK's largest defence programmes. This briefing is intended to give interested parties an overview on certain key aspects of the programme. It is informal and not intended for direct reproduction.

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Type 45 Anti-Air Warfare Destroyer Background

Production on the first ship began in August 2003 with launch scheduled for early in 2006.

BAE Systems Naval Ships is the Prime Contractor for the Type 45 programme and is working with VT Shipbuilding to provide the shipbuilding component of the programme.

It should be noted that PAAMS (Principle Anti-Air Missile System) is not a BAE Systems contract, but is a Tri-national programme (Anglo-French-Italian) to be supplied as Government Furnished Equipment to BAE Systems Naval Ships for integration into the ships.

Shipbuild

2005 is a key year for physical production on the first ship in the Type 45 contract.

All of the ship blocks are now in build at BAE Systems' facilities on the Clyde in Glasgow and at VT Shipbuilding in Portsmouth. Production is to agreed timescales and budgets.

Current production focus is on ensuring that all steelwork is structurally sound in preparation for block link up.

The stern section of the ship, a 700-tonne unit known as Block A, was successfully moved from BAE Systems Govan facility to the Scotstoun yard in December 2004. Block A has now been moved to its final launch position on the berth in preparation for link up with the other sections of the ship.

This block move also provided a successful trial of the transfer quays at the Clyde facilities – the ability to transfer material between sites will be of particular importance from the second ship onwards when the production focus will move to BAE Systems facility at Govan.

Blocks B/C (the centre section of the ship containing the engineering spaces, gas turbines, diesel generators etc.) are now being prepared for their move to the berth in March.

Blocks E/F, the bow section of the ship being built by VT Shipbuilding in Portsmouth, are targeted to move to the Clyde in summer. This will be a key milestone for the programme – it will mean that the final hull integration can begin in earnest in preparation for the launch in early 2006.

All shipbuild activity is on target to meet the agreed programme.



Left: Lord Bach commencing production of ship 01

Centre: Block A moving into Covered Berth at Scotstoun

Right: Blocks B/C in Module Hall, Scotstoun

Systems installation, integration and testing

A key challenge for the programme is ensuring that all ships systems, from propulsion and weaponry through to environmental and hotel services, work together efficiently. Exceptional levels of design maturity on Type 45 mean that significant work on installing and testing systems can be completed at a much earlier stage than on previous contracts.

This is the year that the worldwide Procurement network for Type 45 delivers the majority of the equipment for the first ship. For BAE Systems as Prime Contractor, and therefore responsible for the overall management and integration of all of the ship's systems, this means considerable work on a series of Factory Acceptance Tests on equipment.

Progress on outfitting of machinery spaces is on time and on budget and the completion of the Fluid Systems is now being targeted. Work on the High and Low-pressure salt water cooling systems are also nearing completion – this has been identified as a 'Critical Path Activity', vital for the success of this stage of the programme.

On Block A current focus is on raising the compartments to 'Pre-Outfit 1 and Pre-Outfit 2' levels in anticipation of commencing the Cable Reeving Programme in Spring 2005.

The importance of partnership across the programme was emphasised during the testing of the Long-Range Radar (LRR). VT Shipbuilding has shipped the LRR mast module (unit 35) to Thales' test facility in the Netherlands as part of the plan to test key ships systems in parallel with the rest of the build.

The first mast module and Antenna will be shipped to the Maritime Integration and Support Centre (Pictured) at Portsdown for integration in early April this year.

The LRR will offer a significantly enhanced capability over existing systems. The power of the system was demonstrated when it was able to track all aircraft coming into Heathrow, Charles de Gaulle, Schiphol and Frankfurt airports and still have spare capacity.



Left: Block A on berth at Scotstoun

Right: Maritime Integration and Support Centre at Portsdown

Contracts and agreements

The Type 45 programme involves a huge network of suppliers and partners, bringing a range of skills and experience to the programme. It has a massive reach into the engineering, industrial and specialist services markets and is directly and indirectly responsible for the maintenance of thousands of jobs in the UK and beyond.

Some items, such as PAAMS, are contracted separately and are not part of BAE Systems contract. As Prime Contractor, BAE Systems will be responsible for co-ordinating all activities supporting the delivery of the ships into service and will work with all the programme partners.

BAE Systems is currently contracted to supply three complete ships and three platforms (without systems and integration). The MoD has indicated that there will be a total of eight Type 45 Destroyers, a revision from the initial plan to order a class of 12 ships.

BAE Systems is currently preparing a contract submission for the systems and integration work on ships 04, 05 & 06. This will be submitted to the customer this summer, with negotiations expected to be completed by the end of the year.

Discussions regarding the contracts for ships 07 and 08 have yet to commence.

A key part of the Type 45 contract relates to in-service support. BAE Systems is currently preparing the submission for the in-service support element of the contract and this is due to be submitted in summer 2005.

Forward look

The programme focus is on delivering the First of Class type 45 into service but work is also underway on the subsequent ships. This section gives a basic snapshot on activity on other aspects of the programme.

Production on the second ship began in August 2004. As of mid-February 10 units of Type 45 ship 02 have commenced construction on the Clyde and a further 11 are underway at VT Shipbuilding.

The benefit of developing a regular 'drumbeat' of production is already becoming apparent with lessons learned from early production sequences on the first ship now being applied on the second. This has resulted in significant improvements in the quality of the units produced.

The programme is still on schedule to commence production on ship 03 in May 2005.