National Audit Office

MINISTRY OF DEFENCE

Major Projects Report 2007
Project Summary Sheets

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL | HC 98-II Session 2007-2008 | 30 November 2007

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Project Summary Sheets

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John Bourn
Comptroller and Auditor General
National Audit Office

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MAJOR PROJECTS REPORT 2007

POST MAIN GATE PROJECTS

PRE MAIN GATE PROJECTS

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POST MAIN GATE PROJECT SUMMARY SHEET

A400M

Integrated Project Team Responsible:

A400M

Single Point of Accountability for project capability:

Director Equipment Capability (Expeditionary Logistics & Support)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

A400M is planned to provide tactical and strategic mobility to all three Services. The required capabilities include: operations from airfields and semi-prepared rough landing areas in extreme climates and all weather conditions by day and night; carrying a variety of equipment including vehicles and troops over extended ranges; air dropping paratroops and equipment; and being unloaded with the minimum of ground handling equipment. The Strategic Defence Review confirmed a requirement for an airlift capability to move large single items such as attack helicopters and some Royal Engineers' equipment and concluded that this would be met, in the latter part of this decade, by Future Transport Aircraft. The A400M was selected to meet this requirement. It will replace the remaining Hercules C-130K fleet.

A400M is a collaborative programme involving seven European nations (Germany, France, Turkey, Spain, Belgium, Luxembourg and United Kingdom). A total of 180 aircraft (25 for UK) are being procured through a contract with Airbus Military Sociedad Limitada. The design phase is nearing completion and manufacture activities have commenced. First Flight is scheduled for 2008 and the first UK aircraft is scheduled to be delivered to the Royal Air Force in 2010.

1b. Associated projects

Critical to Achievement of ISD		**Critical to Initial Gate Requirement**	
Project Title	Forecast ISD	Project Title	Forecast ISD
-	-	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
Airbus Military Sociedad Limitada	Development, Production and Initial In Service Support	Fixed Price, subject to Variation of Price (VOP)	International Competition

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	2629
Approved Cost at Main Gate	2744
Variation	-115
In-year changes	+13

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
March 2007	-8	Accounting Adjustments and Re-definitions	Variation in Cost of Capital due to a revision of accruals in future forecast costs.
March 2007	-2	Changed Requirement	Defer UK A400M National Training Facility by 2 years.
March 2007	+6	Changed Requirement	Fuel Tank Inertion System Pipe work.
March 2007	-12	Changed Requirement	Deletion of Centralised Crypto Management Unit requirement.
May 2006	+32	Technical Factors	Increase in Training costs, figures from industry indicated a shortfall in costing line.
May 2006	-3	Technical Factors	Realism decrease to Support activities post aircraft delivery .
Historic	-43	Accounting Adjustments and Re-definitions	Changes to Cost of Capital costs and Sunk Costs (-£1m). Correction of previous years treatment of deliveries (+£1m). Transfer from RDEL to CDEL (-£1m). Difference in variation figures due to revision of Cost of Capital Charge (-£42m).
Historic	-312	Changed Requirement	Deletion of Civil Pallets Configuration Item (-£5m). Addition of Propeller Brake(+£6m). Option to re-profile Training Facilities for realism (-£1m). Programme measure to move deferred configuration Items back into aircraft delivery profile (-£2m). Reduction in number of aircraft to be equipped with Defensive Aids Sub-System (DASS)

Date	Variation (£m)	Factor	Explanation
			from 25 to 9 (-£238m). Programme option to delete and defer Configuration Items and to slip In Service Date by 12 months (-£81m) Option bringing the DASS forward onto aircraft 1-9 (+£9m).
Historic	-2	Technical Factors	Programme realism with regard to costing Technical Publications (-£5m), Special To Type Equipment (-£5m), Aircraft Ground Equipment (-£4m), Government Furnished Equipment/Facilities (-£7m) and Codification of equipment/spares (-£1m). Training Needs Analysis identified the need for funding increase; Develop &Build Facilities (+£11m), Initial Training (+£7m), Develop & Build Training Devices (+£6m), and Develop & Build Training Facilities (-£3m). Identification of UK only certification requirements (+£6m). Costing realism in line with better programme understanding including adjustment for actual sunk costs (-£6m). Costing re-adjusted with understanding of future programme – Certification (-£15m), Government Furnished Equipment (+£4m), Support (+£4m). Re-profiling deliveries for realism Build Facilities (-£1m), Initial Provision Spares (-£5m), Deployment Kits (-£1m). Reduction in the requirement for government procured items. (-£46m). Improved understanding of programme requirement for Initial Provision Spares (+£83m), Deployment Kits (-£1m), Initial Training (-£13m) and Mission Planning & Restitution System (-£10m).
Historic	+5	Exchange Rate	A decrease in 2005/2006 (-£24m). Variation in 2004/2005 (+£39m). Variation in exchange rate assumptions used in the Business Case, 2000/2001, 2001/2002 and 2002/2003 (-£232m). Variation in 2003/04 (+£222m).
Historic	-90	Changed Budgetary Priorities	Departmental Reviews have identified savings to programme risks (-£23m). Changed delivery

Date	Variation (£m)	Factor	Explanation
			profile from that in the Business Case (-£61m). Minor realism adjustments, includes UK share of Organisation Conjointe de Coopération en matière d'ARmement (OCCAR) Programme Division costs (+£5m), QinetiQ Support costs increased (+£1m), unidentified variance (+£1m). Equipment Programme Measure deleting 1 Simulator (-£20m). Minor realism changes includes Certification, Special To Type equipment and Training Facilities (+£7m).
Historic	+12	Inflation	An increase in 2005/2006 (+£14m). An increase in 2004/2005 (+£8m). Changes between inflation rate assumed in the Business Case and yearly inflation indices resulting in a decrease 2000/2001 (-£6m), an increase 2001/2002 (+£6m), a decrease 2002/2003 (-£10m).
Historic	+353	Contracting Process	Realism to reflect 3 month delay in 2000/01 to contract effectivity (+£52m). Slip of aircraft payments and associated equipment to reflect above contract let decision (+£15m). Improved costing data for Configuration Items available (+£160m). Contract Effectivity Date (CED) slipped from November 2001 - October 2002 (+£149m). CED slipped from October 2002 - April 2003 (-£59m). Adjustments in line with increased knowledge of Programme (+£66m). CED slipped from April 2003 - May 2003, includes redefinition of Asset Deliveries to align with aircraft delivery schedule (-£30m).
Historic	+65	Procurement Strategy	Total number of aircraft ordered by participating nations higher than anticipated, and consequent reduction in Unit Production Cost (-£65m). Subsequent contract renegotiation due to German reduction in offtake (+£130m).
Historic	-116	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the approved figures at Main Gate.
Net Variation	-115		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	334

2d. Years of peak procurement expenditure

2009/2010	2010/2011

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	**Current**	**at Main Gate**	**Current**
***	***	25	25

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	Delivery of 7th aircraft with Strategic Military Aircraft Release and support arrangements.

3b. Performance against approved in-service date

	Date
Current Forecast ISD	March 2011
Approved ISD at Main Gate	December 2009
Variation (Months)	+15
In-year changes	0

3c. Reasons for variation from approved ISD

Date	**Variation (months)**	**Factor**	**Explanation**
Historic	+16	Changed Budgetary Priorities	Change in the customer's requirement flowing from changed budgetary priorities.
Historic	+9	Procurement Strategy	Delay in bringing contract into effect as a result of delayed approvals in Germany.
Historic	-10	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the approved figures at Main Gate.
Net Variation	+15		

3d. Cost resulting from ISD variation

Type of Cost/Saving	**Cost £m**	**Saving £m**	**Explanation**
Short Term Plan	+ 26	-	Life extension of 14 C130K aircraft.
Total	+ 26		

3e. Operational impact of ISD variation

The Out of Service date of C130K aircraft has been extended to 2012, therefore no operational impact. This matches the planned capability build up of A400M.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	Deployment Capability	Yes	-	-
02	Payload	Yes	-	-
03	Environmental Operating Envelope	Yes	-	-
04	Tactical Operations	Yes	-	-
05	Navigation Performance	Yes	-	-
06	Communication System	Yes	-	-
07	Defensive Aids Suite	Yes	-	-
08	Aerial Delivery	Yes	-	-
09	Crew Composition	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
-	-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

The Government announced in December 1994 that it would replace its ageing C-130K Hercules fleet, in part by procuring 25 C-130J's from Lockheed Martin and in addition, subject to certain conditions, by rejoining the next phase of the collaborative Future Large Aircraft (FLA) programme (now known as A400M). The FLA 'Initial Gate' approval was achieved in July 1997 and in the same year the solution assumed for costing purposes was changed to an initial lease of four C-17 and subsequent procurement of 25 FLA. A Request For Proposals (RFP) was issued to Airbus in September 1997 on behalf of the seven FLA nations (UK, France, Germany, Italy, Spain, Belgium, Turkey). Subsequently, in July 1998, four nations (UK, France, Spain, Belgium) issued a "competitive RFP" for a Future Transport Aircraft (FTA) to Airbus Military Company (A400M), Boeing (C-17) and Lockheed Martin (C-130J).

Proposals were received on 29 January 1999 and parallel national and international assessments were undertaken. These covered Combined Operational Effectiveness and Investment Appraisal, technical and commercial compliance, risk assessment, and an appraisal of the international and industrial dimensions. This work also led to parallel negotiations and clarification with the three bidders. At the direction of the Equipment Approvals Committee in December 1999, additional work was undertaken to inform the Main Gate submission. On 16 May 2000 the Government announced the decision to procure 25 A400M aircraft to meet the FTA requirement.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	1	0.04%
Approved Cost at Initial Gate	2	0.08%
Variation	-1	

5c. Duration of Assessment Phase

Date of Main Gate Approval	May 2000
Date of Initial Gate Approval	-
Length of Assessment Phase [months]	-

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	2628	2744
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	-	-	-

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	-	February 2009	December 2009
Envelope within which capability was expected to be available at Initial Gate	-	December 2007	-

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POST MAIN GATE PROJECT SUMMARY SHEET

ASTUTE CLASS SUBMARINE

Integrated Project Team Responsible:

ATTACK SUBMARINES

Single Point of Accountability for project capability:

Directorate Equipment Capability (Under Water Effect)

Senior Responsible Owner for broader capability:

Director General Nuclear

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Astute Class of Attack Submarines is the replacement for the existing Swiftsure and Trafalgar Classes of nuclear attack submarine. The required capability places greater emphasis on land attack, intelligence gathering and special forces operations. GEC-Marconi (now BAE Systems (Submarine Solutions)) was identified as MoD's preferred bidder in December 1995**.** Using the policy of No Acceptable Price No Contract, a Prime Contract was placed in March 1997 for the design, build and in service support of the first three of the Class.

Following BAE Systems' disclosure during 2002 of significant delay and projected cost overrun on the Astute programme, the Department entered into discussions with the company about arrangements to address those difficulties. An Agreement between the Department and BAE Systems was reached in February 2003 which reduced risk (e.g. by separating the design, development, build and acceptance of the First of Class from the production of the second and third submarines), and placed new incentives on the company to perform. The Department agreed to increase its cash funding for Astute by around £430 million, against an increased contribution by the company of £250 million. The Department's contribution is primarily in recognition of the greater than expected difficulty in applying Computer Aided Design (CAD) techniques to UK submarines. An amendment to the Astute contract to enact the Agreement was signed in December 2003. Since the Agreement, all the programme's anchor milestones have been met and new project management disciplines have been implemented to achieve better planning and performance monitoring.

Risk analysis, taking into account opportunities to reduce construction time, predicts a most likely In-Service Date of November 2008; however, BAE Systems are determined to bring this date forward to August 2008. All three submarines are now in build and production targets for them are stable. As part of the aforementioned February 2003 Agreement, a revised Target Cost Incentive Fee (TCIF)

arrangement was put in place for Boat One; Boats Two and Three were allowed to proceed on the basis of cost recovery, pending final pricing. Prices were concluded for Boats Two and Three in 2007; a TCIF arrangement with a maximum price was agreed for each Boat.

1b. Associated projects

Critical to Achievement of ISD		Critical to Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
Swiftsure & Trafalgar Class Update Final Phase	2004	-	-
Astute Class Training Service (ACTS)	2007	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
BAE Systems (Submarine Solutions) (formerly BAE Systems Electronics Ltd – Astute Class Project and BAE Systems Astute Class Ltd (BACL))	Demonstration to In-Service	Boat One – Target Cost Incentive Fee Boats Two & Three – Target Cost Incentive Fee with Maximum Prices	United Kingdom Competition

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	3798
Approved Cost at Main Gate	2578
Variation	+1220
In-year changes	+142

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
March 2007	-12	Accounting Adjustments and Re-definitions	Increase in shipbuilders relief.
March 2007	-23	Technical Factors	Cost of Capital reduction in respect of removal of Sustainability Costs.
March 2007	-204	Technical Factors	Sustainability costs of maintaining submarine build capability removed.
March 2007	-7	Accounting Adjustments and Re-definitions	Cost of Capital effect of adding in creditors and accruals estimates for 2007/08 onwards.
March 2007	-30	Technical Factors	Impact on Cost of Capital of Boat three delivery advance of one year due to compressed sea trials.

Date	Variation (£m)	Factor	Explanation
March 2007	+51	Accounting Adjustments and Re-definitions	Re-costing of Non-Attributable items since MPR06 (Items not included in the original approval).
March 2007	+65	Accounting Adjustments and Re-definitions	Overall increase in Cost of Capital due to cost growth in CDEL, changed profile and delivery values.
March 2007	-29	Technical Factors	Option E07UW178S – capability reduction to a 7 boat Astute Programme, taken in Equipment Plan 2007 (EP07).
March 2007	-3	Technical Factors	Option E07UW601S – compress Astute class Boats 1-3 sea trials programme, taken in EP07.
March 2007	+334	Technical Factors	Cost Growth from Review Year 06 to EP07. Materials (+£164m), Labour (+£68m), GDP (+£65m), Risk (+£50m), Profit (+£7m), Non-Prime (-£66m), Overhead (-£12m), Shipbuilder Relief (+£58m).
Historic	+39	Contracting Process	BAE Systems to forego any incentive payments on Boat One (-£13m). Reduction in Warranty to be provided by BAE Systems from three years to one year (-£3m). Planned Contract Amendments (+£55m).
Historic	+1073	Technical Factors	Cost growth in provision of some elements of nuclear safety cases (+£17m). Departmental review identified savings opportunities within other elements of nuclear safety cases (-£20m). Increase in cost as a result of the reassessment of risk, specifically, Team Leader challenge in MPR05 (+£123m). Cost increase identified as part of the IPT's internal review in 2005/06 Prime Contract (PC) Overheads (+£97m), PC Materials (+£61m), PC Labour (+£26m) and unallocated cost growth (+£21m). Changes in throughput assumptions between MPR05 and MPR06 (-£73m). Reduced Requirement for Technology Insertion post MPR05 (CDEL -£17m, cost of capital -£1m). Prime Contract pricing assumptions and changes to costing (+£19m). Reassessment of risk (+£51m). Reduction of risk on

Date	Variation (£m)	Factor	Explanation
			Sonar 2076 programme (-£16m). Re-costing of land attack missile interface & integration (+£5m). Re-costing of External communications (+£5m). Increase in overall BAE Systems base costs (shipyard and sub contracts) reflecting a re-estimate as well as cost of delay (+£571m). Increase in risk provision owing to technical complexity (+£152m). Changed cost reflecting Astute Agreement of February 2003 (+£52m).
Historic	-331	Accounting Adjustments and Re-definitions	Shipbuilders Relief (-£58m) and Sunk cost corrections (-£3m) made in project account. Decommissioning and Decontamination costs (-£1m). Reallocation of Pension cost increases since MPR05 (-£5m). Overall reduction in Interest on Capital due to changed delivery profile and values (-£16m). Re-costing of Non-Attributable items since MPR05 (items not included in the original approval) (+£29m). Removal of items wrongly attributed to Astute Approval in previous years (-£11m). Decrease reflects difference between anticipated resource profile at approval and current profile (EP2001) (-£74m). Removal of ACTS costs that have been incorrectly included in previous MPRs – training not part of original Astute MG approval (-£62m). Difference in variation figures due to revision of Cost of Capital Charge (-£89m). Removal of items wrongly attributed to Astute Approval in previous Years (-£41m).
Historic	+257	Changed Requirement	Includes change to fore end design, completion of land attack missile capability and improved tactical data link capability (+£32m). Additional Capability originally part of Astute second buy which has been brought forward into the first buy (+£225m).

Date	Variation (£m)	Factor	Explanation
Historic	+40	Inflation	Variation between anticipated rates for GDP and VOP on contract (sunk costs only) (+£14m). Correction in previous VOP calculation – incorrect split between labour and materials (+£26m).
Net Variation	+1220		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	2539

2d. Years of peak procurement expenditure

2001/2002	2005/2006

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
-	-	3	3

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	Contract Acceptance Schedule Stage 1 (safe operation and start of operational work up)

3b. Performance against approved in-service date

	Date
Current Forecast ISD	November 2008
Approved ISD at Main Gate	June 2005
Variation (Months)	+41
In-year changes	-1

3c. Reasons for variation from approved ISD

Date	**Variation (months)**	**Factor**	**Explanation**
October 2006	-1	Technical Factors	Risk analysis, taking into account opportunities to reduce construction time, predicts a most likely In-Service Date of November 2008.
Historic	-1	Technical Factors	Risk analysis, taking into account opportunities to reduce construction time, predicts a most likely In-Service Date of December 2008.
Historic	+43	Technical Factors	Exceptional difficulties arose with the introduction of a computer aided design (CAD) system, the availability of trained staff and project management.
Net Variation	+41		

3d. Cost resulting from ISD variation

Type of Cost/Saving	**Cost £m**	**Saving £m**	**Explanation**
Support costs and current equipment	-	-	Costs from this delay have been factored and subsumed into the Department's revised assessment of Force Level Requirements.
Other	-	-	Costs from this delay have been factored and subsumed into the Department's revised assessment of Force Level Requirements.

3e. Operational impact of ISD variation

The Astute delay will result in the delayed introduction of improved capability over current classes; such as improved detection, greater weapon load and increased availability. Since these delays the department has fully considered the plans for Submarine capability in the light of this and many other factors.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	Weapon system effectiveness	Yes	-	-
02	Sonar performance	Yes	-	-
03	Hull strength (survivability)	Yes	-	-
04	Top speed	Yes	-	-
05	Endurance	Yes	-	-
06	Acoustic signature	Yes	-	-
07	Complement	Yes	-	-
08	Land attack capability	Yes	-	-
09	Special forces capability	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
-	-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

The Astute Class of submarines is the planned replacement for the Swiftsure and Trafalgar class Submersible Ship Nuclear (SSN). In June 1991 (equivalent of Initial Gate) approval was given to proceed with a programme of studies at an estimated cost of £6m (1991/1992 prices) to define the Batch 2 Trafalgar Class Boat (now known as the Astute Class). This programme of studies led to the issue of an Invitation to Tender for the design and build of an initial batch of three Astute Class SSNs and a further approval of £2m (1992/1993 prices) for contractor and Defence Research Agency support to MoD during the tendering exercise in 1994.
In July 1994, as a result of concerns over the overall affordability of the programme, Minister (Defence Procurement) and the Treasury approved a further £23.5m (at 1993/1994 prices) for risk reduction studies to be undertaken in parallel with the formal bid phase of the project. To maintain an effective competition, contracts for risk reduction were awarded to both bidders, GEC Marconi and Vickers Shipbuilding and Engineering Ltd. The successful outcome of these studies led to Equipment Approvals Committee approval (the equivalent of Main Gate) in March 1997 to place a contract for the design, build and initial support of three Astute Class submarines with GEC Marconi, now BAE Systems.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	29	1%
Approved Cost at Initial Gate	33	1%
Variation	-4	

5c. Duration of Assessment Phase

Date of Main Gate Approval	March 1997
Date of Initial Gate Approval	-
Length of Assessment Phase [months]	-

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	2431	2578	2730
Expected envelope of costs to Support Demonstration and Manufacture Phase at Initial Gate	-	-	-

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	-	June 2005	-
Envelope within which capability was expected to be available at Initial Gate	-	December 2001	-

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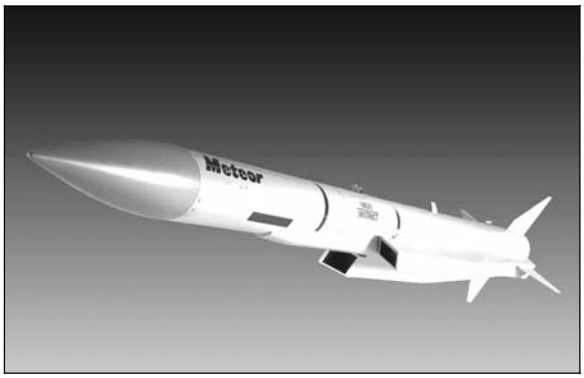
POST MAIN GATE PROJECT SUMMARY SHEET

BEYOND VISUAL RANGE AIR TO AIR MISSILE (BVRAAM)



Integrated Project Team Responsible:

BEYOND VISUAL RANGE AIR-TO-AIR MISSILE

Single Point of Accountability for project capability:

Director Equipment Capability (Theatre Airspace)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Beyond Visual Range Air-to-Air Missile (BVRAAM) (also known as Meteor) will provide Typhoon with the capability to combat projected air-to-air threats and sustain air superiority throughout the life of the aircraft. Until Meteor enters service, Typhoon will be armed with the Advanced Medium Range Air-to-Air Missile (AMRAAM), contracted to Raytheon Missile Systems.

Key features of the BVRAAM requirement include stealthy launch, enhanced kinematics (giving increased stand-off and disengagement ranges, a better ability to chase and destroy highly agile manoeuvring targets) and robust performance against countermeasures.

This is a collaborative programme with: Germany, Spain and Italy (for Typhoon), Sweden (for Gripen) and France (for Rafale). The contract for the demonstration, manufacture and support of Meteor was placed with MBDA UK Ltd on 23 December 2002. Only the United Kingdom has committed to production; the contract includes production options that can be exercised by partner nations during the demonstration programme. Following the completion of Air Launched Demonstration firings during Summer 2006, and associated data gathering trials, evidence has been submitted for the successful achievement of all four Key Milestones. Following delays in the commencement of Typhoon integration activities, Tornado F3 will be employed as the trials platform for continuing Meteor development with Typhoon integration proceeding as the missile development becomes more mature.

1b. Associated projects

Critical to Achievement of ISD		**Critical to Initial Gate Requirement**	
Project Title	Forecast ISD	Project Title	Forecast ISD
Typhoon Future Capability Programme	2011	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
MBDA UK Ltd (Meteor)	Demonstration (all 6 nations) and Manufacture (United Kingdom only at present)	Firm price up to June 2007 (Demonstration), Firm Price up to June 2006 (Manufacture), Fixed Price thereafter subject to Variation of Price	International competition
Raytheon Missile Systems (AMRAAM)	Manufacture to In-Service	Firm price	Non-competitive

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	1168
Approved Cost at Main Gate	1362
Variation	-194
In-year changes	-36

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
March 2007	-36	Changed Budgetary Priorities	In consultation with the customer the decision has been taken to examine capability trade-offs while Realignment and Integration proposals are being matured and assessed against the requirement (-£36m).
Historic	+27	Exchange Rate	Change in Euro exchange rate on Meteor prime (+£29m). Change in Dollar exchange rate on AMRAAM (-£11m). Revaluation of foreign currency assumptions on current and future AMRAAM contracts (+£9m).
Historic	-6	Changed Requirement	United Kingdom (UK) share of additional common requirement (+£2m), additional requirement for Dual Date Link (+£6m), additional containers required for Meteor (+£2m), refurbishment of existing AMRAAMs (-£16m).
Historic	-36	Changed Budgetary Priorities	Effect of Equipment Planning 05 Options: reduce Meteor numbers (-£55m), decision taken not to upgrade AMRAAM 120Bs (-£65m).

Date	Variation (£m)	Factor	Explanation
			Re-costing of United Kingdom Technical Support requirements in addition to Memorandum Of Understanding commitments (+£3m). Re-costing of Meteor Integration (-£1m). Increases for Insensitive Munitions (+£9m). Missiles & Ancillary Equipment in Support of Typhoon Integration (+£6m). Surveillance & Life Extension (+£5m). Initial Spares (+£3m). Container Development (+£1m). Container Production (+£1m). Support to Typhoon Integration (+£2m). Revised deliveries of Meteor Missiles (+£12m). Container Logistics Support for Meteor (+£7m). Production Investment (+£1m). Trial Ranger (+£11m). Increase in Unit Production Cost for AMRAAM missiles (MPR03 +£25m; MPR04 +£15m). Surveillance Spares for AMRAAM (+£1m). United Kingdom share of Government Furnished Equipment (GFE) (+£6m). Decrease for service Evaluation Trials for Meteor (-£7m). Integration of Meteor onto Typhoon (-£9m), Production of Meteor Telemetred Operational Missiles (-£1m), In Service Reliability Demonstration support (-£3m). Meteor Technical Support (-£2m). Minor miscellaneous Meteor items (-£1m).
Historic	-6	Accounting Adjustments and Re-definitions	Change in assumption in regard to recovery of VAT (+£9m), Derivation of approved cost on resource basis (-£4m), Difference in variation due to revision of Cost of Capital charge (-£11m).
Historic	-16	Contracting Process	UK's share of MBDA revalidation of prices caused by delay in contract placement (+£6m). Revalidation to reflect prices within AMRAAM contract (-£14m), and effect of revalidation on Cost of Capital Charge (-£8m).
Historic	+1	Procurement Strategy	Revaluation of UK's share of GFE/Government Furnished Facilities requirements (-£20m). Additional funding required for integration of AMRAAM AIM

Date	Variation (£m)	Factor	Explanation
			120C onto Typhoon (+£82m). Gripen Trial (+£2m). Realism measure on funding for integration of AMRAAM AIM 120C onto Typhoon (-£65m). Decrease in UK's share of Development (-£30m). Increase of UK's share of development through transfer of work share from Germany (+£31m) and UK share of GFE (+£1m).
Historic	-122	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the highest acceptance (90%) estimates at Main Gate (-£129m), Variation due to revised approval figures (+£7m).
Net Variation	-194		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	370

2d. Years of peak procurement expenditure

2009/2010	2012/2013

2e. Unit production cost*

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
1.0	1.1	***	***

* UPC covers Meteor missile only.

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	Achievement of an operational capability with *** missiles and supporting infrastructure.

3b. Performance against approved in-service date*

	Date
Current Forecast ISD	August 2013
Approved ISD at Main Gate	August 2012
Variation (Months)	+12
In-year changes	0

3c. Reasons for variation from approved ISD

Date	Variation (months)	Factor	Explanation
Historic	+15	Change in Associated Project	Typhoon integration delays cannot be absorbed and uncertainty over Typhoon Future Capability Programme.
Historic	+8	Contracting Process	Slippage caused by delays in placing contract (+11 months). Reassessment of opportunities arising from Meteor Realignment activities, to reduce the duration of firing trial campaigns and to de-risk transition from Demonstration to Production phases (-3 months).
Historic	-11	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the highest (90%) estimates approved at Main Gate (-11 months).
Net Variation	+12		

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
-	-	-	-

* ISD shown is Meteor only.

3e. Operational impact of ISD variation

Extend reliance on the current AIM-120 Advanced Medium Range Air to Air Missile (AMRAAM). AMRAAM capability falls significantly below that of Meteor and was planned as a temporary solution, providing Typhoon anti-air capability for the period between Typhoon Operational Employment Date and Meteor ISD. Whilst the ISD delay is not expected to affect peacetime policing of Sovereign airspace, the survivability and capability of Typhoon in almost all operational roles will be compromised. It should be noted that a staged transfer from AMRAAM to Meteor is necessary due to the latter's delivery profile, and hence use of AMRAAM by Typhoon extends beyond Meteor ISD. There is significant risk that part of the AMRAAM stocks will be unable to meet the revised ISD and hence we may fall below the minimum acceptable stockpile liability, although this cannot be confirmed at present.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements†

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	Multiple Target Capability	Yes	-	-
02	Kill Probability	Yes	-	-
03	Enhanced Typhoon Survivability	Yes	-	-
04	Typhoon Compatibility	Yes	-	-
05	Minimum Air Carriage Life	Yes	-	-
06	Reliability	Yes	-	-
07	Support	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
-	-	-	-

† KURs are Meteor only.

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

On 2 October 1995, Minister (Defence Procurement) gave approval for the issue of an Invitation to Tender (ITT) for BVRAAM. The ITT was issued on 5 December 1995. Two bids were received; one from a consortium led by Matra BAe Dynamics (MBD) UK Ltd, and one from Raytheon Systems Ltd. After extensive analysis, it was decided that both bids contained areas of risk that needed to be addressed before a development and production contract could be placed. In May 1997, a Project Definition & Risk reduction (PDRR) phase was approved and contracts were placed on both bidders for a period of one year with results to be technically and operationally assessed before a final decision was made. Both PDRR contracts were let in August 1997 and revised bids were received in May 1998.

Due to the complexity of the BVRAAM assessment, the need to accommodate the requirements of the Prospective Partner Nations and the need to go for Best And Final Offers (BAFOs) primarily as a result of the French request to join the programme, Main Gate Approval was not achieved until May 2000. In his statement to the House of Commons on 16 May 2000, the Secretary of State announced that MBD's Meteor missile had been selected.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	20	2%
Approved Cost at Initial Gate	14	1%
Variation	+6	

5c. Duration of Assessment Phase

Date of Main Gate Approval	May 2000
Date of Initial Gate Approval	October 1995
Length of Assessment Phase [months]	55

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	1198	1240	1362
Expected envelope of costs to Support Demonstration and Manufacture Phase at Initial Gate	-	1226	-

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	June 2010	September 2011	August 2012
Envelope within which capability was expected to be available at Initial Gate	-	-	March 2005

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POST MAIN GATE PROJECT SUMMARY SHEET

BOWMAN

Integrated Project Team Responsible:

BOWMAN AND TACTICAL COMMUNICATIONS & INFORMATION SYSTEM (BATCIS)

Single Point of Accountability for project capability:

Director Equipment Capability (Command, Control & Information Infrastructure)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Bowman and Common Battlefield Application Toolset, Digitisation Battlespace Land Infrastructure and Platform Battlefield Information System Application programme (BCIP) will provide a secure tactical voice and data communications system for all three Services in support of land, littoral and air manoeuvre operations. It will replace the increasingly obsolete Clansman combat radio system and the Headquarters infrastructure element of the Ptarmigan trunk system. BCIP comprises of a series of incremental upgrades such as BCIP4, BCIP5.

In September 2001, following international competition, General Dynamics United Kingdom Ltd was awarded the Bowman Supply and Support contract as prime contractor, and conducted its own competition among sub-contractors. On the basis of Brigade scale operational field trials Bowman achieved its In-Service Date (ISD) on 26 March 2004. In 2005, the first converted brigade deployed to Iraq on Operation TELIC, with a core Bowman capability alongside its residual Clansman capability. Continued operational experience indicates that Bowman is delivering a battle winning capability. Littoral Manoeuvre (amphibious) Operational Readiness Date was declared in December 2005 and planning continues to declare Land and Air Manoeuvre operational readiness.

During 2005, a review of the BCIP programme provided the opportunity to better ensure that it would deliver a capability consistent with the MoD's vision of achieving Network Enabled Capability. A Review Note was approved in July 2006 and formal offer of contract for the 'recast' programme was accepted by the prime contractor. A validation phase has begun that will define a number of risk reduced options that will inform a MoD Main Gate submission, in mid 2008, for future capability enhancements.

By 31 December 2006, 7,000 platforms had been converted and conversion of all available platforms to BCIP 4.f is expected by December 2007. Dependent on a successful Brigade Operational Field Trial 3 in October 2007 and Acceptance & Release decision in December 2007, fielding of BCIP5 is expected to take place from January 2008.

1b. Associated projects

Critical to Achievement of ISD		Critical to Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
-	-	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
General Dynamics UK Ltd	Demonstration and Manufacture	Firm Price	International Competition

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	2009
Approved Cost at Main Gate	2041
Variation*	-32
In-year changes	-10

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
March 2007	-2	Contracting Process	Revised prices as a result of activities completing at a lesser cost than originally estimated.
March 2007	-8	Changed Requirement	Items acquired under contract now provided as new requirements to other projects
Historic	+2	Accounting Adjustments and Re-definitions	Increase in Cost of Capital Charge (COCC) arising from mis-stated closing balance in previous MPR
Historic	-6	Changed Budgetary Priorities	Funding brought forward to reflect contractor progress. COCC reductions (-£6m).
Historic	+120	Technical Factors	Technical requirements re-evaluated (+£90m). Associated reprofile of funding and asset balances resulted in increased COCC (+£30m).
Historic	-29	Changed Requirement	Additional Technical requirements not scoped as part of the original supply and support contract (+£61m). Technical support requirements not originally included in Main Gate approval (+£10m). Additional Technical requirements not covered under terms of Supply and Support contract (+£16m).

* Includes correction to cost of capital charge arising from mis-stated balance in previous MPR

Date	Variation (£m)	Factor	Explanation
			Removal of requirements to be accounted for as separate projects (-£17m). Estimated impact of Total Fleet requirements (-£17m). Additional Technical requirements not covered under terms of Supply and Support contract (+ £5m). Items acquired under contract now provided as new requirements to other projects (-£73m). Support related activity incorrectly included in forecast (-£14m).
Historic	+15	Contracting Process	Revised prices for Global Positioning System Modules (+£3m). Difference between approved D&M cost at Main Gate and Contract Price (+£12m).
Historic	+8	Procurement Strategy	Contract Incentivisation for achieving key events leading to ISD (+£8m).
Historic	+11	Accounting Adjustments and Re-definitions	Cost of Capital Charge (COCC) reduced due to accounting for deliveries ahead of programmed profile.(-£17m). Figure adjusted following error of +£5m in MPR05. Reprofile of funding and asset balances resulted in increased COCC (+£23m). COSVAT adjustment (+£5m)
Historic	-143	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the highest acceptable (90%) estimates at Main Gate (-£143m). Figure adjusted following error of -£5m in MPR05.
Net Variation	-32		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	2015

2d. Years of peak procurement expenditure

2004/2005	2005/2006

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
-	-	48000 radios of varying type	43000 radios of varying type

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	A Brigade Headquarters, two mechanized battalions and support troops capable of engaging in Operations Other than War.

3b. Performance against approved in-service date

	Date
Current Forecast ISD	March 2004
Approved ISD at Main Gate	December 2004
Variation (Months)	-9
In-year changes	0

3c. Reasons for variation from approved ISD

Date	**Variation (months)**	**Factor**	**Explanation**
Historic	-9	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the highest acceptable (90%) estimates at Main Gate.
Net Variation	-9		

3d. Cost resulting from ISD variation

Type of Cost/Saving	**Cost £m**	**Saving £m**	**Explanation**
-	-	-	-

3e. Operational impact of ISD variation

-

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	Secure Voice.	Yes	Yes	-
02	Secure Data.	Yes	-	-
03	Automatic Position Location, Navigation and Reporting service (APLNR).	Yes	-	-
04	Security.	Yes	-	-
05	Ease of Use.	Yes	-	-
06	Provide automated system management enabling support to the full spectrum of operations.	Yes	-	-
07	Data Communications Infrastructure.	Yes	-	-
08	Support the Common Infrastructure for Battlefield Information Systems concept and provide a common operating environment for Digitization Stage 2.	Yes	-	-
09	Allow the free-flow of data and voice within and between vehicles, groups of stationary vehicles, and other systems.	Yes	-	-
10	Provide a secure and robust tactical internet service making efficient use of limited bandwidth.	Yes	-	-
11	BOWMAN is to support current operational C2 doctrine, practice, deployment and battle procedure.	Yes	-	-
12	BOWMAN is to provide interfaces to other key battlefield communication systems used at the tactical level.	Yes	Yes	-
13	BOWMAN equipment is to meet a level of survivability consistent with its physical environment and mission criticality for 95% of users in 95% of likely climatic conditions.	Yes	-	-
14	Make effective, robust use of the Electro-Magnetic Spectrum without degrading other systems.	Yes	-	-
15	BOWMAN is to provide working installations in all platforms designated as containing BOWMAN equipment, except for ships, WAH-64 and Lynx aircraft for which equipment is to be provided but not installed.	Yes	-	-
16	Health and Safety.	Yes	-	-
17	Supportability.	Yes	-	-
18	Training.	Yes	-	-
19	BOWMAN is to supply sufficient scales of equipment and services to meet the needs of those forces taking part in or supporting land operations, as structures at End of Supply (EOS).	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		-		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
April 2006	KUR 12 – Interoperability	Technical	New solution agreed and developed to meet the performance standard. To be trialled during operational field trials.
Historic	KUR 01 – Secure Voice	Technical	User continues to experience voice/voice arbitration interference. Technical solution, whilst tested in the laboratory, will be tested at scale during operational field trials.

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

Bowman was first approved in 1988, when it was expected to have the equivalent of Main Gate in 1993 and ISD in 1995. After Feasibility Stage 1 in 1993, contracts were placed with two competing consortia for Feasibility Stage 2 (FS2) and Project Definition Stage 1.

FS2 indicated that the risk of procuring and integrating the Local Area Sub-system (LAS) would be best managed by placing the responsibility with the Bowman contractor. This change in procurement strategy was approved in 1997, along with Bowman Core Risk Reduction work.

In November 1996, the previous two consortia formed a joint venture company, Archer Communications Systems Ltd (ACSL) to submit a joint bid for Bowman. The Department approved a single source strategy for Bowman following a review of procurement options. A risk reduction contract was placed with ACSL in August 1997. ACSL received a further package of work in October 1998 worth £182M prior to production commitment at Main Gate, then planned for November 2000.

The Department rejected ACSL's bid in July 2000, removed their preferred supplier status and re-launched the competition, as it was not convinced ACSL could meet an early ISD. TRW Ltd, Computing Devices Canada Ltd (CDC), now General Dynamics UK Ltd, and Thales Defence Ltd competed for the contract, which was won by CDC in July 2001. The Equipment Approvals Committee gave Main Gate approval in August 2001 and the Bowman Supply and Support contract was signed on 13 September 2001.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	397	16.5%
Approved Cost at Initial Gate	130	6.1%
Variation	+267	

5c. Duration of Assessment Phase

Date of Main Gate Approval	August 2001
Date of Initial Gate Approval	-
Length of Assessment Phase (months)	-

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	1874	1898	2041
Expected Envelope of costs to support Demonstration and Manufacture Phase forecast at Initial Gate	-	-	-

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	February 2004	March 2004	December 2004
Envelope within which capability was expected to be available at Initial Gate	-	December 1995	-

POST MAIN GATE PROJECT SUMMARY SHEET

BRIMSTONE

Integrated Project Team Responsible:

AIR LAUNCHED MUNITIONS

Single Point of Accountability for project capability:

Director Equipment Capability (Deep Target Attack)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Advanced Air-launched Anti-Armour Weapon (AAAW), known as Brimstone, is designed to reduce the fighting power of enemy armoured forces as early and as far forward as possible. It replaces the BL755 cluster bomb in the anti-armour role, and will be carried by Tornado GR4/4a, Harrier GR9 and Typhoon. These fixed-wing aircraft will complement the capability provided by the Apache AH64-D, which is armed with the Hellfire anti-armour weapon. Brimstone operates autonomously after launch, which helps reduce the hazard to the attacking aircraft from enemy fire. The longer reach and speed of deployment of fixed-wing aircraft mean that they can engage armour far beyond the battlefield area, and before it can join the contact battle.

Following an international competition an AAAW development and production contract was let in November 1996 to GEC-Marconi Radar and Defence Systems (later Alenia Marconi Systems, now MBDA) for the BRIMSTONE system. The In-Service date for Brimstone was declared on 31 March 2005.

1b. Associated projects

Critical to Achievement of ISD		Critical to Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
-	-	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
MBDA UK Ltd	Development / Manufacture	Firm price	International competition.

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	899
Approved Cost at Main Gate	814
Variation	+85
In-year changes	-1

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
February 2007	-1	Technical Factors	Reduction in Cost of Capital Charge due to earlier deliveries than anticipated in the original forecast (-£1m).
Historic	+104	Technical Factors	Reduction in Cost of Capital Charge due to earlier deliveries than anticipated in the original forecast (-£31m). Increase in Harrier integration costs to cover BAES costs for Capability D (+£12m). Reassessment of Development activities (-£4m); reassessment of Tornado Integration Requirements (+£2m); and Harrier Integration Requirements (-£3m); reassessment of level of QinetiQ Support (-£3m). Non provision of Government Furnished Equipment (i.e. Tornado GR4) to contractor (+£9m). Increase in Tornado integration costs for 2002/03(+£4m). Increase in Cost of Capital due to slippage in deliveries (MPR02 +£40m; MPR03 +£64m and MPR04 +£14m).
Historic	-14	Receipts	Receipt from Liquidated Damages due to late delivery of missiles. (-£3m). *** (-£10m). Receipt from Liquidated Damages due to late delivery of missiles (-£1m).

Date	Variation (£m)	Factor	Explanation
Historic	-4	Changed Budgetary Priorities	Removal of Typhoon integration costs as advised by Customer 1 (-£8m). Delay to ISD, milestone payment and Typhoon Integration (+£4m). Reduction of missile quantity by 25% (-£49m). Increase in EP03 provision relating to 25% missile reduction (+£49m).
Historic	-	Changed Requirement	Reduction in launcher quantities and Service Weapon Test Sets (-£3m); deletion of Tornado Inboard Pylon (-£1m); additional requirements for Emulators (+£4m).
Historic	+16	Inflation	Difference between the inflation assumed at contract let and the GDP deflators from the time of approval (+£14m); difference between GDP and inflation on the main contract since placement (+£2m).
Historic	-6	Exchange Rate	Change in US Dollar exchange rate quoted in the contract (-£6m).
Historic	-10	Accounting Adjustments and Re-definitions	Changes due to conversion of cash based approvals and contract details to resource basis (-£3m). Increase in Cost of Capital due to the inclusion of Harrier/Tornado costs (+£6m). Change to take account of an adjustment to the current forecast cost to previous MPRs, reflecting the availability of more accurate data (MPR01 +£13m and MPR04 -£20m). Difference in variation figures due to revision of Cost of Capital Charge (-£6m).
Net Variation	+85		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	883

2d. Years of peak procurement expenditure

1999/2000	2005/2006

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
***	***	***	***

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	Delivery of first *** weapons and associated equipment to a front-line unit and declaration that the unit is operational.

3b. Performance against approved in-service date

	Date
Current Forecast ISD	March 2005
Approved ISD at Main Gate	September 2001
Variation (Months)	+42
In-year changes	0

3c. Reasons for variation from approved ISD

Date	**Variation (months)**	**Factor**	**Explanation**
Historic	+12	Changed Requirement	Equipment Capability Customer request to bring Brimstone ISD into line with that of Tornado GR4/4a (+12 months).
Historic	+17	Technical Factors	Safety problems resulting from the "2nd Pass" issue (ie the risk of the missile falling back into the aircraft after launch) halted flying during its investigation (MPR03 +6 months, MPR04 +5 months). Delay in signing Certificate of Design due to testing the modification of the autopilot software (+6 months).
Historic	+1	Contracting Process	Delay in letting contract with Alenia Marconi Systems as pricing negotiations took longer than anticipated (+1 month).
Historic	+12	Change in Associated Project	Delay in provision of trials aircraft (ie Tornado GR4) (+12 months).
Net Variation	+42		

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Other	19	5	Support cost for Brimstone (-£5m). Additional costs to modify BL755 (+£11m). Urgent Operational Requirement for further modifications to BL755 (+£8m).
Total	+14		

3e. Operational impact of ISD variation

The ISD delay of 42 months results in the lack of a fully effective anti-armour capability and the run-on of BL755 in the anti-armour role. However, 12 months of the delay were necessary to align Brimstone ISD with the availability of its Tornado GR4/4a platform.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	Carriage, launch and jettison from Tornado GR4/4a, Harrier GR9 and Typhoon.	Yes	-	-
02	Autonomous operation after launch.	Yes	-	-
03	Detection and attack of Main Battle Tanks, Armoured Personnel Carriers and Self Propelled Guns.	Yes	-	-
04	Kill probability as defined in System Requirement Specification (SRS).	Yes	-	-
05	Launch from high and low altitude.	Yes	-	-
06	Resistance to active and passive countermeasures.	Yes	-	-
07	Component lives as defined in SRS.	Yes	-	-
08	Compatibility with existing aircraft loads.	Yes	-	-
09	Reliability, Maintainability and Testability as SRS.	Yes	-	-
10	Minimum Through-life costs.	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
-	-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

Approval was given for feasibility studies to be carried out in 1982. However, during Options for Change, programme funding was withdrawn while alternatives for a future anti-armour capability were considered. The project was reinstated in 1993 and the revised Staff Requirement, for an Advanced Air-launched Anti-armour Weapon (AAAW), was presented to the Equipment Approvals Committee early in 1994.

In June 1994, the Equipment Approvals Committee gave approval for an Invitation to Tender (ITT) to be issued to industry for an AAAW. Following issue of the ITT in December 1994, proposals were received from GEC Marconi, Hunting Engineering, Texas Instruments, Thorn EMI and British Aerospace.

Following full technical and commercial assessment of the proposals a further tender round took place in January 1996. This concentrated on the commercial aspects of the bids in line with revised timescales and production quantity requirements.

The tender assessment was completed in February 1996 with the findings being presented to the Equipment Approvals Committee. Brimstone was found to have superior relative performance by a comfortable margin and also provided the most cost-effective solution. In July 1996 the Secretary of State for Defence announced that GEC Marconi had won the AAAW competition with its Brimstone weapon, and would be awarded the contract to develop and produce the weapon system.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	23	2.5%
Approved Cost at Initial Gate	20	2.2%
Variation	+3	

5c. Duration of Assessment Phase

Date of Main Gate Approval	March 1996
Date of Initial Gate Approval	-
Length of Assessment Phase [months]	-

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	814	-
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	-	-	-

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	-	September 2001	-
Envelope within which capability was expected to be available at Initial Gate	-	December 1991	

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POST MAIN GATE PROJECT SUMMARY SHEET

C VEHICLE CAPABILITY – PFI

Integrated Project Team Responsible:

ENGINEERING SYSTEMS SUPPORT

Single Point of Accountability for project capability:

Director Equipment Capability (Expeditionary Logistics & Support)

Senior Responsible Owner for broader capability:

Capability Manager (Battlespace Manoeuvre)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The C Vehicle fleet comprises of over 4,000 items of 100 major types such as rough terrain earthmoving equipment, specialist engineer construction plant as well as field material handling equipment. These are held at varying degrees of military readiness and are capable of undertaking a wide range of combat support, logistic and construction tasks. The majority of the fleet is Commercial-Off-The-Shelf (COTS) which has been modified to meet the military requirement.

The contract was signed on 10 June 2005 with ALC (SPC) Limited.

The Operational Feasibility Test was successfully completed and In-Service Date (ISD) was declared on 31 March 2006. The remainder of the Implementation Rollout Phases were all completed on time leading to Full Service Commencement (FSC) in May 2006.

There are now approximately 1,500 pieces of equipment and machinery on demand in the hands of the user in the average month in support of operations and peacetime training. The Equipment Refurbishment and Replacement Programme is operating to the Schedule in the contract.

Experience on operations has identified that spares performance continues to affect Asset Availability (Key User Requirement 07). Performance has improved significantly throughout this year and further corrective action is planned.

1b. Associated projects

Critical to Achievement of ISD		Critical to Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
-	-	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
ALC (SPC) Limited	Competitive - International	Firm price for 5 years then fixed price subject to Variation of Price	PFI

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	703
Approved Cost at Main Gate	714
Variation	-11
In-year changes	0

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
Historic	+16	Contracting Process	The requirement to provide support was reduced in line with the June 2005 contract award date which delayed the transfer of operational equipment until 2006/07. Management of the requirement with ALC and stakeholders led to a cost reduction (-£2m) against that which had been originally identified. The cost was reduced following the final negotiations leading to the agreed contract price (-£6m). The set-up costs and ongoing project costs for the project were also reviewed in line with the contract obligations for the estate, Management Information System and consultant support (+£2m) and the payment to other agencies for estate costs (-£1m). Realism to reflect delay in contract award (+£5m), re-scoping of project specific items (+£4m) and review of fixed price risk (+£2m). Adjustment in line with improved identification of MoD requirements during January-March 2005 in

Date	Variation (£m)	Factor	Explanation
			support of the PFI Service Provider including set-up costs for the Management Information System (+£2m), estates provision (+£1m) and initial service support (+£9m).
Historic	+13	Accounting Adjustments and Re-definitions	External assistance (+£2m). Transfer of resource expenditure following change in policy for PFI programmes (+£56m). Change to treatment for transfer of existing fleet from MoD to Service Provider (-£40m). Bid process re-definition (-£5m).
Historic	-40	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the highest acceptable (90%) estimates at Main Gate.
Net Variation	-11		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	57

2d. Years of peak procurement expenditure

PFI Service with annual service payments	2019/2020-2020/2021

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
-	-	-	-

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	Completion of the Operational Feasibility Test (OFT) and has been certified by Director Equipment Capability (Ground Manoeuvre) as Accepted.

3b. Performance against approved in-service date

	Date
Current Forecast ISD	March 2006
Approved ISD at Main Gate	April 2006
Variation (Months)	-1
In-year changes	0

3c. Reasons for variation from approved ISD

Date	**Variation (months)**	**Factor**	**Explanation**
Historic	0	Technical Factors	The live operational test has been successfully completed by ALC and the process of validating the result (and lessons learnt) has been completed within March 2006 (-1 month). Whilst the peacetime service is being rolled out successfully, there is still a requirement for ALC to pass a live operational test. Current operational commitments and the resource intensive roll out will result in the test taking place in late March 2006. The audit and approval process will therefore take place in early April 2006 (+1 month).
Historic	+3	Contracting Process	Extended negotiations surrounding the final project issues (+1 month). Effect of Standardisation of PFI Contracts version 3 review and extended re-negotiations (+2 months).
Historic	+2	Changed Budgetary Priorities	Delay caused by HM Treasury constraint on transfer of resource expenditure for the PFI service. Directors of the Equipment Capability agreed to proceed until completion of the internal funding process in September 2004.
Historic	-6	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the highest acceptable (90%) estimates at Main Gate.
Net Variation	-1		

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
-	-	-	-

3e. Operational impact of ISD variation

ISD achieved on time with no variations

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	Deployment and Recovery: The User requires strategic, operational and tactical deployability of the capability using current in-service and planned transport systems.	Yes	-	-
02	Mobility: The User requires the ability to utilise C Vehicles to undertake: Obstacle breaching: Route clearance: Support to bridging operation: Road construction and maintenance: Snow & ice clearance: Beach opening and Bomb disposal	Yes	-	-
03	Survivability: The User requires the ability to utilise C Vehicles to: Dig in armour, infantry, artillery and Headquarters: Harden buildings: Construct deception and concealment earthworks	Yes	-	-
04	Sustainability Operations: The User requires the capability to utilise C Vehicles to: Handle stores: Outload to stockpiles: Operate quarries: Construct Bulk Fuel Instillations: Clear derelict buildings: Construct water points	Yes	-	-
05	Air Support: The User requires the capability to utilise C Vehicles to provide and repair aircraft operating surfaces and essential air support facilities.	Yes	-	-
06	Readiness: The User requires the C Vehicle capability to be available to meet the readiness criteria of units and formations.	Yes	-	-
07	Availability: The system shall achieve an Asset Delivery Availability of 100%, with an asset Intrinsic (constituting training, spares & maintenance) Availability of at least 90%.	-	Yes	-
08	Maintenance Regime: The Service Provider must have a scheduled and unscheduled maintenance regime in place and have the ability to support the capability as far forward as is operationally practical.	Yes	-	-
09	Spares: The arrangements for the provision and delivery of spares must be compatible with in-service systems.	Yes	-	-
10	Training: The Service Provider must ensure that military manpower is appropriately trained to operate and maintain the supplied equipment on operations and in peacetime.	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
March 2007	KUR07 Availability	Technical Factors	Spares performance at Full Service Commencement was insufficient to satisfy the Asset Availability KUR07 for equipment on operations. Corrective action has been taken and significant improvement has been made but further work is still required. Notwithstanding that the contractual KPI(6) relating to this element is being achieved.

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

Initial Gate approval was granted in November 2000 based on Pre-Qualification Questionnaire documentation from six consortia. Three short-listed contenders were chosen to receive the Invitation to Negotiate (ITN), released in March 2001. Throughout this period a process called 'convergence' was used to acquaint industry with the requirement and also to gain feedback on alternative solutions. The ITN responses were assessed against specified criteria. At this time, the three contenders reduced to two, as two bidders combined teams to propose a consolidated bid. A further round of Revise and Confirm offers were requested in May 2002, with responses from the two consortia (Amey Lex Consortia; FastEx) in June 2002.

The evaluation of the two bids (ALC and FastEx) against the Public Sector Comparator was completed in early 2003 before final submission of the Main Gate Business Case to the Investment Approvals Board (IAB) in March 2003. Whilst awaiting the IAB and Ministerial decision, no interaction could take place with the bidders, however, specific elements of the requirement were reviewed to address any inconsistencies and implement additional risk reduction measures. This process led to the revised Preferred Bidder documentation published in December 2003. At the time of announcing the Main Gate decision to proceed with ALC, it was also recognised that a funding gap had been created by the constraint placed on the use of Indirect Resource Departmental Expenditure Limit (IR DEL) (non-cash) by HM Treasury. The funding requirements were addressed with ALC as the initial part of the contract negotiations and with the Directors Equipment Capability (Ground Manoeuvre) and (Expeditionary Logistics and Support) in Equipment Plan 2005.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	3	0.4%
Approved Cost at Initial Gate	4	0.6%
Variation	-1	

5c. Duration of Assessment Phase

Date of Main Gate Approval	December 2003
Date of Initial Gate Approval	November 2000
Length of Assessment Phase [months]	37

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	669	674	714
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	-	-	-

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	July 2005	October 2005	April 2006
Envelope within which capability was expected to be available at Initial Gate	-	-	-

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POST MAIN GATE PROJECT SUMMARY SHEET

FALCON

Integrated Project Team Responsible:

THEATRE AND FORMATION COMMUNICATIONS SYSTEMS (TFCS)

Single Point of Accountability for project capability:

Director Equipment Capability (Command, Control & Information Infrastructure)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

FALCON will provide the comprehensive deployable communication systems that are needed at all levels of command and will operate in conjunction with systems such as Bowman, Cormorant, Skynet 5 and with allies' communication and information systems. It will not duplicate the capability of existing systems, but will be the high capacity system that binds together tactical communications in a theatre of operations as an integral part of the plans for Networked Enabled Capability (NEC). FALCON will replace, incrementally, a number of current systems, in particular Ptarmigan.

The programme comprises four increments of which only Increment A is reflected in this report. Increments B, C and D are planned to provide tactical communication systems respectively for the more mobile Division/Brigade level, for Royal Air Force deployed operating bases and for littoral warfare and deep support roles.

Increment A will provide a tactical formation level secure communication system for the High Readiness Force (Land) (HRF(L)) and the Allied Rapid Reaction Corps (ARRC). It will enable units to be deployed rapidly to areas of crisis, thereby allowing the UK to remain a pivotal member of the ARRC. The system will be modular and upgradeable, incorporating much off the shelf technology that will ease management of obsolescence throughout its service life. FALCON will require significantly less manpower to operate.

Following Main Gate approval for Increment A in March 2006, the Demonstration and Manufacture contract was awarded to BAE Systems Insyte. Gainshare negotiations to acquire the MAN 6 Tonne Support Vehicle are at an advanced stage. The Increment A Equipment Acceptance Trial, currently contracted for early 2009, will be a key milestone in the system's development. Further FALCON Increments will be subject to separate approvals.

1b. Associated projects

Critical to Achievement of ISD		Critical to Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
-	-	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
BAE Systems Insyte	Demonstration and Manufacture	Firm price	UK competition

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	292
Approved Cost at Main Gate	324
Variation	-32
In-year changes	-13

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
January 2007	-4	Changed Budgetary Priorities	Assessment of later years' risk mitigation budget yielded a reduction of £4m in 2011/12. This was formalised with an Equipment Plan (EP) Option – E07CC224S.
September 2006	-1	Changed Requirement	Vehicle Military Engineering Programme (MEP) for FALCON vehicles was transferred in 2006/07 to Joint Electronic Surveillance (JES) IPT.
April 2006	-1	Changed Budgetary Priorities	Reduction in Risk Mitigation funding in 2008/09 to ensure overall FALCON Increment A affordability within EP07 programme plans.
April 2006	-7	Contracting Process	Condition of Main Gate Financial Approval was any planned accrual in 2005/06 that could not be achieved could not be slipped into subsequent financial years.
Historic	-2	Changed Requirement	Vehicle Military Engineering Programme (MEP) for FALCON vehicles was transferred 2005/06 to JES IPT.

Date	Variation (£m)	Factor	Explanation
Historic	-17	Risk Differential	Difference between the risk allowed for in the most likely (50%) and highest acceptable (80%) estimates at Main Gate
Net Variation	-32		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	46

2d. Years of peak procurement expenditure

2008/2009	2011/2012

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
-	-	-	-

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	Minimum scaling to provide wide and local area deployable communications that will support a non-enduring Medium Scale UK Framework Nation deployment short of war fighting.

3b. Performance against approved in-service date

	Date
Current Forecast ISD	June 2010
Approved ISD at Main Gate	February 2011
Variation (Months)	-8
In-year changes	0

3c. Reasons for variation from approved ISD

Date	**Variation (months)**	**Factor**	**Explanation**
Historic	-8	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the highest acceptable (90%) estimates at Main Gate.
Net Variation	-8		

3d. Cost resulting from ISD variation

Type of Cost/Saving	**Cost £m**	**Saving £m**	**Explanation**
-	-	-	-

3e. Operational impact of ISD variation

-

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	FALCON shall meet the Information Exchange Requirements (IERs) of its User communities	Yes	-	-
02	FALCON shall have the mobility necessary to support its User communities	Yes	-	-
03	FALCON shall be sufficiently flexible so resources can be proportionally matched to the scale of effort required during all phases of an operation	Yes	-	-
04	FALCON shall support the passage of secure information at a level appropriate to its protective marking	Yes	-	-
05	FALCON managers shall be able to manage all aspects of a FALCON deployment in an efficient, timely and effective manner in order to meet the needs of the User	Yes	-	-
06	FALCON Users shall be able to exchange information between co-operating forces in Joint and Combined operations without disruption to the conduct of operations	Yes	-	-
07	FALCON shall minimise the manpower and training burden in order to provide efficient support to operations	Yes	-	-
08	FALCON shall survive in a hostile physical and electronic environment	Yes	-	-
09	FALCON shall be sustainable on operations	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
-	-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

Increment A of the Falcon programme gained Initial Gate (IG) approval in July 2002, following an extended Concept Phase that considered two key options: buy off the shelf technology (Bowman and Cormorant); and buy new capability. It was concluded that a new capability was required.

Marconi Selenia (now Selex) and BAE Systems Insyte were selected for the 15 month Assessment Phase (AP) contract and to compete for the Demonstration and Manufacture (D&M) Phase prime contract for Increment A. The AP contracts concentrated on reducing the risk in the proposals for the D&M phase, including demonstration of components and subsystems to achieve an acceptable, affordable, low risk solution. In addition, Whole Life Cost estimates were refined. Bidders' proposals for the D&M phase were submitted on 31 March 2004.

The procurement strategy endorsed at IG comprised four increments: Increment A provided for HRF(L) and the ARRC; Increment B for UK divisions and brigades under armour; Increment C for RAF deployed operational bases; and Increment D for littoral warfare and deep support, including higher mobility. Increment D remains an unfunded aspiration.

During the later stages of the AP in 2004/2005, a savings option removed funding from the first two years of the D&M phase, resulting in a review of the incremental procurement strategy. Two options were considered. The first was for a single programme that effectively would have combined all three funded increments. This would have necessitated the project returning to pre-IG status and delayed the ISD by up to 4 years. This option was adopted as the planning assumption and reflected in MPR 2005. The second option was for the delivery of "early capability" that would provide for one medium scale deployment by 2010. It would utilise the savings option funding profile and exploit the existing contractor bids for Increment A. This option was explored and found to be viable.

In July 2005, approval was given to the further in-depth exploration of the second option and the selection of BAE Systems Insyte as the preferred bidder for Falcon Increment A. A programme was developed in conjunction with the preferred bidder that was affordable within the available funding.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	31	9.6%
Approved Cost at Initial Gate	30	9.3%
Variation	+1	

5c. Duration of Assessment Phase

Date of Main Gate Approval	March 2006
Date of Initial Gate Approval	July 2002
Length of Assessment Phase [months]	44

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase	290	308	324

forecast at Main Gate			
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	212	-	255

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	October 2009	June 2010	February 2011
Envelope within which capability was expected to be available at Initial Gate	June 2006	-	December 2007

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POST MAIN GATE PROJECT SUMMARY SHEET

GUIDED MULTIPLE LAUNCH ROCKET SYSTEM (GMLRS)

Integrated Project Team Responsible:

ARTILLERY SYSTEMS

Single Point of Accountability for project capability:

Director Equipment Capability (Deep Target Attack)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

Guided Multiple Launch Rocket System (GMLRS) will replace unguided MLRS M26 rockets from 2007 as the latter reach the end of their shelf life and enter a disposal programme. GMLRS rockets will be fired from modified M270 MLRS launchers: the requirement is for a rocket that will increase MLRS's range from 30km to at least 60km, with a reduction in heat and smoke signature. The rocket will use the Global Positioning System and inertial guidance in order to achieve the required accuracy and significantly increase its effectiveness. The payload was initially planned to consist of bomblets, but in July 2005 the decision was taken to change to a high explosive Unitary Warhead taking advantage of an accelerated US programme. GMLRS is a modular design, to allow other payloads to be easily incorporated.

The increased precision of GMLRS will reduce the number of rockets required to defeat a target. This will allow stocks of GMLRS to be significantly lower than those for the M26 rocket, thus reducing the logistic burden and eventual disposal costs. At Main Gate, the UK's requirement was for 6,500 GMLRS rockets. However, reviews during the Equipment Planning (EP) process have caused the quantity to fluctuate, due to changing Customer priorities and funding constraints. In addition, Operational Analysis emerging from a related programme, Indirect Fire Precision Attack (IFPA), has led to a review of GMLRS quantities and delivery schedule. The required quantity of GMLRS currently stands at 4,080 rockets; of this quantity, 1,488 rockets will be procured under the GMLRS programme. Funding for the remainder has been transferred to the IFPA programme, under which further assessment of quantities will be carried out, to establish the future requirement for GMLRS in the context of the overall procurement of IFPA munitions.

The UK placed an order for its first batch of GMLRS rockets (654) in August 2005, via the US Department of Defense, and deliveries commenced in January 2007. To date only the UK has formally entered into collaborative manufacture, with the US. The In Service Date for GMLRS was achieved on 30 March 2007.

1b. Associated projects

Critical to Achievement of ISD		Critical to Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
MLRS Future Fire Control System (FFCS)	March 2007	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
Lockheed Martin Missiles and Fire Control, Dallas	Collaborative Manufacture	Firm Price	Single source contract placed by US Department of Defense

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	91
Approved Cost at Main Gate	360
Variation	-269
In-year changes	-172

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
March 2007	-2	Changed Budgetary Priorities	Expenditure during 2006/07 was less than forecast.
March 2007	-165	Changed Requirement	An Option in Equipment Plan 2007 transferred funding to IFPA. (see Section 1a above)
November 2006	-3	Exchange Rate	Programme costs reduced in the light of a more favourable exchange rate that occurred during the year.
June 2006	-2	Changed Budgetary Priorities	Lower Cost of Capital resulting from a decision to defer the delivery of Batch 2 rockets by 2 years.
Historic	-123	Changed Requirement	Customer review reduced quantity of rockets from 6,204 to 4,080 (-£114m). Customer review reduced quantity of rockets from 6,500 to 6,204 (-£9m).
Historic	+114	Contracting Process	Cost increase reflecting a higher unit price for the first batch of rockets than previously forecast by the US Department of Defense.

Date	Variation (£m)	Factor	Explanation
Historic	+13	Changed Budgetary Priorities	Two savings measures deferred deliveries of rockets, causing an increase in price due to inflation (+£7m), and increased Cost of Capital due to changed delivery profile (+£1m). Final version of Equipment Plan 2003 incorporated increased cost for Manufacture phase (+£5m).
Historic	+4	Accounting Adjustments and Re-definitions	Correction of cost error in Equipment Plan 2003.
Historic	-64	Exchange Rate	Revaluation of programme cost to reflect revised exchange rates (-£47m), (-£17m).
Historic	-41	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the highest acceptable (90%) estimate at Main Gate.
Net Variation	-269		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	38

2d. Years of peak procurement expenditure

2006/2007	2010/2011

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
0.05	0.06	6,500	1,488

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	**Original ISD definition:** Provision of War Reserve quantities of rockets (1,000) to support one battery at Medium scale of effort. **MPR06 ISD definition:** The ability to deploy a MLRS battery with a stockpile of 654 rockets in support of a medium scale war fighting operation. **Reason for change:** ISD redefined as a result of Sponsor (DEC-DTA) review, in January 2005. **MPR07 ISD definition:** The ability to deploy an MLRS troop of four launchers with a stockpile of 156 rockets in support of operations. **Reason for change:** ISD redefined as a result of the Sponsor (DEC-DTA) review in September 2006.

3b. Performance against approved in-service date

	Date
Current Forecast ISD	March 2007
Approved ISD at Main Gate	January 2008
Variation (Months)	-10
In-year changes	-1

3c. Reasons for variation from approved ISD

Date	Variation (months)	Factor	Explanation
March 2007	-1	Procurement Strategy	MoD and the contractor accelerated the programme to meet the operational requirement.
Historic	+1	Changed Budgetary Priorities	A savings measure deferred funding, causing delay to ISD.
Historic	-10	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the highest acceptable (90%) estimate at Main Gate.
Net Variation	-10		

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
-	-	-	-

3e. Operational impact of ISD variation

-

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	Maximum range of less than 60km upon introduction into UK service	Yes	-	-
02	Minimum range of no greater than 15km upon introduction into UK service	Yes	-	-
03	Capable of being stored, and shall function correctly thereafter, in a range of climatic conditions.	Yes	-	-
04	Shall achieve specified destructive effect against the designated target arrays with the specified numbers of rockets.	Yes	Yes	-
05	In Global Positioning System mode the deflection and range error of the munitions effect to be no worse than 150m from the point of aim for each rocket, at all ranges, and the GMLRS rocket shall be delivered predictably within the required target area.	Yes	-	-
06	To be compatible with current in-service and planned rocket launchers.	Yes	Yes	-
07	Shall incorporate a payload with a hazardous dud rate less than 1%.	Yes	-	-
08	Shall be interoperable amongst the five GMLRS partner nations.	Yes	-	-
09	Shall have reduced visual and Infra Red signature compared to the M26 rocket.	Yes	-	-
10	Shall have a probability of correctly functioning of at least 93% throughout a 10 year shelf life.	Yes	Yes	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
March 2007	KUR 04	Technical Factors	Effect on the full target set will not be achieved until the tri-mode fuze is incorporated in GMLRS, which will occur when the next batch of rockets is delivered.
March 2007	KUR 06	Technical Factors	The travelling speed of launchers is currently restricted when carrying GMLRS rockets, for reliability reasons. It is expected that this restriction will be lifted once further trials have been conducted.
March 2007	KUR 10	Technical Factors	This KUR cannot be met until GMLRS has been in service for 10 years. However, rocket life assessment continues to progress towards meeting this KUR.

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

An approval equivalent to Initial Gate was obtained in July 1998 for the UK to participate in a collaborative GMLRS Assessment Phase with the other MLRS Partner Nations (France, Germany, Italy and the US). As part of this phase, and acting on behalf of the Partner Nations, the US Department of Defense (DOD) awarded a prime contract to Lockheed Martin Missiles and Fire Control (LMMFC) in November 1998 to develop a GMLRS carrier rocket. The UK contributed 12.5% of the cost of the Engineering and Manufacturing Development (EMD) contract. The EMD contract was completed in early 2003, having been extended by the DOD from its earlier planned end date of November 2002. This extension, together with protracted negotiations with the US regarding the arrangements for manufacture, caused the deferral of Main Gate approval from December 2002 to August 2003. The purpose of the EMD phase was to reduce costs and risk through the use of off-the-shelf components and sub-assemblies, and by maximising sub-contractor competition. All MLRS Partner Nations have equal rights to the design resulting from the EMD contract.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	14	13%
Approved Cost at Initial Gate	19	17%
Variation	-5	

5c. Duration of Assessment Phase

Date of Main Gate Approval	August 2003
Date of Initial Gate Approval	July 1998
Length of Assessment Phase [months]	61

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	291	319	360
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	399	419	503

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	March 2006	March 2007	January 2008
Envelope within which capability was expected to be available at Initial Gate	December 2007	June 2009	December 2010

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POST MAIN GATE PROJECT SUMMARY SHEET

JOINT COMBAT AIRCRAFT (JCA)

Integrated Project Team Responsible:

JOINT COMBAT AIRCRAFT

Single Point of Accountability for project capability:

Director Equipment Capability (Deep Target Attack)

Senior Responsible Owner for broader capability:

Carrier Strike

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

Following UK participation in the Concept Demonstration Phase of the programme, the US Joint Strike Fighter (JSF) was selected to meet the JCA requirement. The Strategic Defence Review confirmed this requirement to provide the Joint Force 2000 (joint command for Harrier Forces) with a multi-role fighter/attack aircraft to replace the Royal Navy Sea Harrier and the Royal Air Force Harrier GR7/9. A tailored Main Gate Demonstration approval was obtained in January 2001 for participation in the System Development and Demonstration (SDD) phase to the value of £1.3bn, along with £600m for related non-SDD work, leading to signature that month by UK and US governments of the SDD Memorandum of Understanding (MOU). The selection of Lockheed Martin as the JSF air system prime contractor included a teaming agreement with Northrop Grumman and BAE Systems to collectively form Team JSF. Two separate and competitive propulsion contracts were awarded to Pratt and Witney for the F135 engine and GE/Rolls Royce Fighter Engine Team for the F136 engine. Whilst other partners joined the programme at Level 2 and 3 entry arrangements, only US and UK requirements drive the SDD baseline solution.

In September 2002 the UK selected the Short Take Off and Vertical Landing (STOVL) JSF variant to meet our requirement. A review of the JSF Programme and the viability of the STOVL design was completed in January 2005 and concluded that a successful programme of weight reduction initiatives and other performance enhancements had restored confidence that the STOVL design should remain the UK's planning assumption. A further review by the Investment Approvals Board (IAB) in July 2006 confirmed this decision.

On 12 December 2006 Minister of State for Defence Equipment and Support signed the Production Sustainment and Follow-on Development MoU, reporting of this phase will commence in MPR09 when the UK plan to purchase the first aircraft, allowing the UK to continue to influence all aspects

of the JSF programme as it moves into a new phase.

The flight test programme commenced on 15 December 2006 with the successful first flight of the first Conventional Take-Off and Land (CTOL) aircraft. The first STOVL aircraft is currently planned to fly in Summer 2008. Continued participation in the JSF programme will deliver a Block 3 aircraft with Air-to-Air and Air-to-Ground capabilities to the UK.

Two Key User Requirements (KUR) remain at risk:

KUR04 - Mission Performance: In July 2006 the IAB directed that Ship-borne Rolling and Vertical Landing (SRVL) should be included in future development of the JCA design to mitigate the risk to the Vertical Land Bring Back capability.

KUR06 – Logistic Footprint: Performance remains marginally better than requirement, although due to very narrow margin this KUR remains at risk. Work is ongoing with Lockheed Martin to drive down Logistic Footprint to ensure it remains within specification as the air system matures throughout the SDD phase.

1b. Associated projects

Critical to Achievement of ISD		**Critical to Initial Gate Requirement**	
Project Title	Forecast ISD	Project Title	Forecast ISD
Future Aircraft Carrier	The ISD for this project will be set when it achieves its Main Gate approval	-	-

1c. Procurement strategy

Contractor(s)	**Contract Scope**	**Contract Type**	**Procurement Route**
Lockheed Martin (LM)	System Development and Demonstration	Cost plus award fee, subject to a maximum price.	Competitive International collaboration procurement. UK participation through MOU agreement. (Note: the contract is placed by the US DoD with LM.)

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	1858
Approved Cost at Main Gate	2236
Variation	-378
In-year changes	-58

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
March 2007	-12	Accounting Adjustments and Re-definitions	The IPT conducted a review of the project work schedule which has given the team sufficient certainty to include more accurate accruals for the duration of the project (-£10m). Accounting Adjustment made in MPR06 now reflected in re-profiling of programme (-£2m).
March 2007	-90	Changed Budgetary Priorities	Re-assessment of UK National Work - attributable cost which include: UK integration costs: (-£94m), Block 3 weapons adjusted to reflect the latest costing from Prime contractor (+£7m), Safety Case now defined to prepare for contract placement in 2007/08 (+£11m) and re-assessment of risk provision (-£87m). Break out from re-assessment from risk provision above which are: UK basing integration & testing (+£5m), Identification of Operational Test & Evaluation costs (+£26m). Outturn for 2006/07 versus Forecast (-£6m). Increase in Cost of Capital Charge resulting from change of planning assumption on delivery of Intangible assets (+£48m).
March 2007	-11	Exchange Rate	Exchange rate against profile until 2013 (-£11m).
March 2007	+55	Technical Factors	Re-alignment of programme now included in Development - Ship-borne Rolling and Vertical Landing (+£55m).
Historic	+24	Accounting Adjustments and Re-definitions	Interest on capital correction (MPR02 +£46m; MPR03 -£12m). New Defence Procurement Agency (DPA) requirement to include Price Forecasting Group costs within the equipment plan (+£1m).

Date	Variation (£m)	Factor	Explanation
			Additional interest on capital from new DPA IT accrual methodology (+£1m). Accounting reclassification of feasibility studies (-£2m). Difference in variation figures due to revision of Cost of Capital Charge (-£16m). **MPR05:** Re profiling of UK specific tasks (+£3m). Adjustment of treatment of Cost of Capital Charges calculation (+£1m). **MPR06:** Change of accounting treatment for SDD contributions. (+£19m) re-profile of 2005/06 accrual into later years. (-£18m) removal of 2005/06 accrual. Reconciliation of accrual (+£1m).
Historic	+376	Changed Budgetary Priorities	Adjustment for realism in the cost of the UK non-SDD work resulting from a deeper review of the estimates originally provided by the US (+£43m). Fewer UK studies than originally planned (MPR02 -£1m; MPR03 (-£6m). Costs benefits gained from use of existing ASRAAM stocks for JCA trials (-£6m). Fewer weapon studies undertaken in year (-£1m). Improved project support strategy (-£3m). Better understanding of the integrated nature and requirements of the aircraft systems (+£384m). **MPR05**: Reassessment of Dstl & QinetiQ tasking (-£10m). Correction of contingency estimates due to weight risks in MPR04 (-£15m). **MPR06:** Re-profile of UK National Work to mitigate increase in Exchange Rate. Main Drivers are Interoperability (-£1m), Capital Studies (-£1m), UK IHMDS (-£1m) and CVF Integration (-£3m). Re-profile of later years Follow on Development (-£3m).
Historic	-499	Changed Requirement	Reviews of the external missile systems for JCA resulted in the removal of the requirement for integrating externally mounted Brimstone (-£41m) and ASRAAM (-£49m), and Paveway II and III (-£1m) capabilities. Further UK participation in the Joint Integrated

Date	Variation (£m)	Factor	Explanation
			Test Force to reflect UK acceptance into service strategy (+£20m). **MPR05:** Provision for Alternate Helmet Mounted Display System removed (-£40m). Reassessment of 2004/05 forecast expenditure (-£12m). Review of miscellaneous requirement including Exchange of Letters Risk Provision (-£40m), design of UK Specific Support (-£3m), Environmental Protection (-£3m) and Autonomic Logistic Information System interoperability (-£6m). Block IV weapons as a result of JSF programme re-alignment (-£368m) and associated increase Cost of Capital charge (+£44m).
Historic	-77	Exchange Rate	Change in dollar/pound exchange rate (**MPR02** +£189m; **MPR03** -£9m; **MPR04** -£85m; **MPR05** -£181m; **MPR06** +£9m).
Historic	+58	Technical Factors	**MPR 04**: Re-examination of risk within the overall programme. (+£87m). **MPR05:** Reduction of Risk line as a result of programme delays (-£29m).
Historic	-202	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the approved figures at Main Gate. (-£213m). Variation due to revised approval figures (+£11m).
Net Variation	-378		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	965

2d. Years of peak procurement expenditure

2005/2006	2007/2008

2e. Unit production cost*

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
-	-	-	-

* The JCA Main Gate was tailored for Development only to match the US procurement cycle. Unit Production Cost approval will be sought as part of MG UK production approval.

SECTION 3: PROJECT TIMESCALE*

3a. Definition of in-service date

ISD Definition:	8 embarked aircraft at Readiness 2 (2-5 days notice to move).

3b. Performance against approved in-service date

	Date
Current Forecast ISD	-
Approved ISD at Main Gate	The tailored Demonstration Main Gate noted but did not approve ISD
Variation (Months)	-
In-year changes	-

3c. Reasons for variation from approved ISD

Date	**Variation (months)**	**Factor**	**Explanation**
-	-	-	-
Net Variation	-		

3d. Cost resulting from ISD variation

Type of Cost/Saving	**Cost £m**	**Saving £m**	**Explanation**
-	-	-	-

3e. Operational impact of ISD variation

-

* The In Service Date (ISD) approval will be sought as part of the incremental Production Approval strategy.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	Survivability	Yes	-	-
02	Interoperability	Yes	-	-
03	Combat radius	Yes	-	-
04	Mission performance	Yes	Yes	-
05	Mission reliability	Yes	-	-
06	Logistic footprint	Yes	Yes	-
07	Sortie generation rates	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
Historic	KUR 04	Technical Factors	The Short Take Off element of KUR 04 (based on Invincible Class (CVS) not Future Aircraft Carrier (CVF)) will be changed in the ongoing KUR review, although current projections indicate robust Short Take Off performance from CVF. Weight challenges and propulsion system integration issues place the Vertical Landing Bring Back element of KUR 04 at increased risk; the IPT has commenced programme action to amend the CVF integration contract to include a requirement to undertake Ship-borne Rolling Vertical Landing (SRVL).
Historic	KUR 06	Technical Factors	Subject to intensive programme action by Prime Contractor. Funded design options that significantly reduce risk have been identified and further changes will be considered in due course.

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

Approval was obtained in November 1996 to enter the Concept Demonstration Phase (CDP) on the JSF programme under an MOU signed in December 1995. The phase began in November 1996 with two competing US Prime Contractors (Boeing and Lockheed Martin) designing weapons systems and flying demonstration aircraft on which the selection of the preferred bidder was based. The phase completed in October 2001 with the announcement of Lockheed Martin as the successful bidder. Studies into alternative options to JSF to meet the requirement were also conducted but were rejected on cost effective grounds. The options were US F/A18E, French Rafale M, a "navalised" Eurofighter and an advanced Harrier.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	144	7.2%
Approved Cost at Initial Gate	150	7.5%
Variation	-6	

5c. Duration of Assessment Phase

Date of Main Gate Approval	January 2001
Date of Initial Gate Approval	-
Length of Assessment Phase [months]	-

5d. Cost boundaries at Initial Gate and Main Gate Approvals*

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	1971	2034	2236
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	-	-	-

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate†	-	December 2012	April 2014
Envelope within which capability was expected to be available at Initial Gate	-	December 2012	-

* Three point estimates for the Production Phase have yet to be determined, as costs are dependant on the final aircraft numbers.

† For MG Development approval, ISD was noted, not approved.

POST MAIN GATE PROJECT SUMMARY SHEET

MERLIN CAPABILITY SUSTAINMENT PROGRAMME (MCSP)

Integrated Project Team Responsible:

MERLIN

Single Point of Accountability for project capability:

Director Equipment Capability (Under Water Effect)

Senior Responsible Owner for broader capability:

Capability Manager (Battlespace Manoeuvre)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Merlin Capability Sustainment Programme (MCSP) will update 30 Merlin Mk1 aircraft to overcome existing and forecast obsolescence within the Weapon System Avionics to ensure sustainment of the required capability until the planned out of service date (2029). The approach taken is one of system level technology refresh of the key mission and air vehicle avionic systems. A core feature of the programme is the implementation of a flexible open architecture that will deliver lower cost of ownership, enable cost-effective future capability insertion and compliance with the latest safety legislation. The Demonstration & Manufacture (D&M) contract has been placed with Lockheed Martin Aero Systems Integration Corporation, UK.

The programme includes the necessary updates to the support and training environments. Towards the end of the Assessment Phase (AP), the programme was brought into the Future Rotorcraft Capability (FRC) Programme. The FRC programme provided funding to support a transition phase (TxP, six months) that enabled critical path MCSP activities to continue while work continued to produce a coherent rotorcraft programme across the MoD. A further transition phase (TxP2, six months), which was subsequently included within the MCSP Main Gate approval, sustained the programme momentum while the MCSP D&M programme was re-crafted to support the wider FRC objectives and the subsequent approval process.

The Main Gate Business Case (MGBC) was amended to reflect the impact of FRC and submitted to Investment Appraisal Board (IAB) in September 2005. HM Treasury and Ministerial approval was granted in December 2005 with the D&M contract awarded shortly thereafter. The formal approval followed in March 2006.

The programme commenced at the start of 2006 and remains on track and within budget.

The programme is currently focussed on working towards the system Preliminary Design Review in early 2008 and the subsequent Critical Design Review in late 2008.
At Main Gate (MG), the IAB acknowledged that the current requirement was for 38 aircraft but only approved the initial procurement of 30. This was to allow wider FRC studies to complete.

A further approval will be sought for the conversion of the remaining aircraft, on completion of the FRC studies and updated operational analysis (OA). This will be for the addition of up to an additional 8 aircraft, at an approximate cost of £65m, delivered as part of the MCSP programme.

1b. Associated projects

Critical to Achievement of ISD		**Critical to Initial Gate Requirement**	
Project Title	Forecast ISD	Project Title	Forecast ISD
-	-	-	-

1c. Procurement strategy

Contractor(s)	**Contract Scope**	**Contract Type**	**Procurement Route**
Lockheed Martin Aero Systems Integration Corporation (Significant (60% by value) sub-contract with AgustaWestland, Yeovil	Demonstration and Manufacture	Firm price until 2010, then fixed price subject to Variation of Price	Non-competitive prime but ~60% competition at sub contract level (across both Prime and AgustaWestland contracts)

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	832
Approved Cost at Main Gate	840
Variation	-8
In-year changes	-5

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
January 2007	-6	Accounting Adjustments and Re-definitions	Delivery of intangible development expenditure now coincides with the first production aircraft delivery. Previously it had been with the fifth aircraft, a year later.
November 2006	+1	Changed Budgetary Priorities	£15m of CDEL funding was brought forward during EP07 which has resulted in a subsequent increase in the Cost of Capital (RDELi).
Historic	-3	Risk Differential	Difference between the risk and uncertainty allowed for in the 50% confidence and the approved Not To Exceed (NTE) figures at Main Gate.
Net Variation	-8		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	79

2d. Years of peak procurement expenditure

2009/2010	2010/2011

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
9.6	9.6	30	30

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	The Operational Capability of the delivered aircraft shall be such that CinC Fleet (advised by Combined Test Team) are able to declare that MCSP is ready for operational deployment in the specified roles. A cumulative total of at least 6 MCSP aircraft delivered to RNAS Culdrose. Logistic support available to enable the operation and maintenance of all the delivered aircraft. Sufficient Trained personnel to achieve required capability.

3b. Performance against approved in-service date

	Date
Current Forecast ISD	February 2014
Approved ISD at Main Gate	September 2014
Variation (Months)	-7
In-year changes	0

3c. Reasons for variation from approved ISD

Date	**Variation (months)**	**Factor**	**Explanation**
Historic	-7	Risk Differential	Difference between the risk and uncertainty allowed for in the 50% confidence and the approved Not To Exceed (NTE) figures at Main Gate
Net Variation	-7		

3d. Cost resulting from ISD variation

Type of Cost/Saving	**Cost £m**	**Saving £m**	**Explanation**
-	-	-	-

3e. Operational impact of ISD variation

-

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	Attack. The user shall be able to neutralise confirmed Anti-submarine Warfare Threats.	Yes	-	-
02	Deployable Search and Rescue (Maritime Only). The user shall be able to conduct naval Search and Rescue.	Yes	-	-
03	Environment. The user shall be able to operate in environments world-wide.	Yes	-	-
04	Find. The user shall be able to acquire situational awareness of the Under Water Effect and Above Water Effect.	Yes	-	-
05	Interoperability. The user shall be able to exchange tactical information between authorities and units.	Yes	-	-
06	Lift. The user shall be able to move personnel and material over land and sea.	Yes	-	-
07	Logistical. The user shall be able to easily logistically support the MCSP.	Yes	-	-
08	Operational Availability. The user shall be able to have Available Force Elements at a time and place as required to complete the mission.	Yes	-	-
09	Operational Locations. The solution shall be able to operate to and from host platforms when required.	Yes	-	-
10	Survivability. The user shall have force elements capable of surviving in hostile and warfighting environments.	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
-	-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

Assessment Phase

Following approval of the MCSP Initial Gate Business Case, the Assessment Phase (AP) contract was placed on 3rd June 2003. The main AP activities comprised:

- Analysis of the User Requirements and development of a consolidated set of system requirements in the form of a Systems Requirements Document.
- Production of System and Sub-System design requirements, and seeking initial costed proposals from potential suppliers.
- Conducting trade-off studies to identify the best value solution where options exist.
- Developing a coherent plan for MCSP, aligned to other existing and planned Merlin programmes.
- Undertaking Integrated Test, Evaluation and Acceptance planning.
- Identification of the risks to the MCSP programme, and the identification and implementation of mitigation action to reduce the impact to an acceptable level.
- Produce documentation and costed proposals for the Demonstration and Manufacture Phase.
- Undertaking initial Integrated Logistic Support activities to define a solution compliant with the evolving Support Solution Envelope.

Future Rotorcraft Capability Review

During the Assessment Phase, MoD embarked on a review of all future rotorcraft requirements under the title of the Future Rotorcraft Capability (FRC) review. The Demonstration & Manufacture (D&M) Proposal that had been provided by Industry and the associated business case were produced before the impact of the FRC review was known. The MCSP programme was reviewed as part of the wider FRC programme. The FRC programme determined that the balance of financial investment over the first four years of the Equipment Programme (EP) between MCSP and Future Lynx should be on a 50/50, 30/70, 30/70, 30/70 basis respectively. As a result of this financial rebalancing the MCSP In-Service Date (ISD) is 22 months (50% Confidence) later than anticipated and the estimated cost of this delay led to an overall increase in the EP for MCSP of £92m at outturn.

To allow Industry to continue critical path activity and to support the reprogramming activities resulting from FRC, the FRC programme provided Transition Phase funding (known as TxP1, 6 months long) to the Merlin Integrated Project Team for an extension to the AP contract.
A further transition phase (TxP2, 6 months long) was required to again sustain programme momentum, align it with wider FRC requirements and during the approval process.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	27*	3%
Approved Cost at Initial Gate	19†	2%
Variation	+8	

* Includes the costs for the Assessment Phase and the first Transition Phase

† Only reflects the IG approval. It does not reflect the additional scope of work completed under the first approval for Transition Phase. Both elements completed within their approved budgets. Actual approval is £29m.

5c. Duration of Assessment Phase

Date of Main Gate Approval	March 2006
Date of Initial Gate Approval	May 2003
Length of Assessment Phase [months]	34

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	828	837	840
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	928	1007	1092

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	August 2013	February 2014	February 2016
Envelope within which capability was expected to be available at Initial Gate	March 2009	-	December 2009

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POST MAIN GATE PROJECT SUMMARY SHEET

NEXT GENERATION LIGHT ANTI-ARMOUR WEAPON (NLAW)

Integrated Project Team Responsible:

INFANTRY GUIDED WEAPONS

Single Point of Accountability for project capability:

Director Equipment Capability (Ground Manoeuvre)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

Next Generation Light Anti-Armour Weapon (NLAW) is a man-portable short-range anti-armour weapon to be carried and used by all Arms and Services and replaces the LAW 80 capability. NLAW will provide a predictive line-of sight capability out to a range of 600m, against main battle tanks and light armoured vehicles, when both stationary and manoeuvring, and have the ability to be fired from enclosed spaces and defensive positions. It will have a secondary role as a means of attacking structures. The project is an Enhanced Off-The-Shelf procurement, and includes the provision of training systems and support. The weapon system is being developed in conjunction with the Swedish Defence Material Administration. The NLAW prime contractor is SAAB Bofors Dynamics of Sweden, with Thales Air Defence Ltd as the main UK sub-contractor.

NLAW will be used by all forces operating in the land environment.

Completion of the final design of the NLAW system, and subsequent production, has been delayed as a result of system qualification difficulties. Entry of the system into service has been deferred until at least July 2008.

1b. Associated projects

Critical to Achievement of ISD		**Critical to Initial Gate Requirement**	
Project Title	Forecast ISD	Project Title	Forecast ISD
-	-	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
Saab Bofors Dynamics, Sweden	Full Development and Production	Firm price (Development Phase) & Fixed Price (Production)	International competition

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	318
Approved Cost at Main Gate	415
Variation	-97
In-year changes	+4

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
March 2007	+6	Technical Factors	Failure of Design Qualification Tests (DQT) in November 2006 resulted in contractor deferring the start of missile assembly and deliveries in order to conduct further firing trials and repeat DQT. These delays have led to an increase in the Cost of Capital.
October 2006	-2	Technical Factors	Reduced risk provision associated with Variation of Price (VOP) and the NLAW warhead qualification trials.
Historic	-22	Procurement Strategy	Departmental Review - Reduction in Unit Production Cost as a result of exercise of Swedish Option (-£3m). Reduction in cost of development attributable to collaboration with Sweden (-£9m), VAT saving on Development associated with collaborative approach (-£10m).
Historic	-39	Accounting Adjustments and Re-definitions	Confirmation received from HM Revenue and Customs that NLAW production is collaborative and therefore zero rated for VAT.
Historic	-5	Technical Factors	Re-assessment of Training equipment requirements resulting in need to increase procurement of training aids (+£7m). Reduction in scope of Development Phase work, including decisions made to reduce some of the development contract options to reduce costs (-£7m).

Date	Variation (£m)	Factor	Explanation
			Contractual Options added to increase the scope of Development (+£1m). Reduced training equipment quantities needed to meet training capability (-£3m); reduced levels of project support (-£3m).
Historic	+4	Changed Budgetary Priorities	Changes in timing of spend and Asset Deliveries leading to variations in Cost of Capital (+£1m, +£3m).
Historic	-1	Contracting Process	Prices for Trainer Spares (+£2m), price for Vehicle Kits (+£1m), Price for Combat Weapons (+£1m), Price for Core Development Contract (-£5m).
Historic	-38	Risk Differential	Difference between risk allowed for in most likely (50%) and highest acceptable (90%) estimates at Main Gate.
Net Variation	-97		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	147

2d. Years of peak procurement expenditure

2007/2008	2008/2009

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
0.02	***	14002	14002

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	A brigade trained and equipped.

3b. Performance against approved in-service date

	Date
Current Forecast ISD	July 2008
Approved ISD at Main Gate	July 2007
Variation (Months)	+12
In-year changes	+12

3c. Reasons for variation from approved ISD

Date	Variation (months)	Factor	Explanation
March 2007	+12	Technical Factors	Failure of DQT in November 2006 resulted in the contractor deferring the start of missile assembly and deliveries in order to conduct further firing trials and repeat DQT.
Historic	+8	Technical Factors	Failures in sub-system qualification delayed the start of production with a subsequent impact on In Service Date.
Historic	-8	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the highest acceptable (90%) estimates at Main Gate
Net Variation	+12		

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Maintain Interim Light Anti-Armour Weapon (ILAW) in-service	-	-	Nil costs provided ILAW 3 year safe life certified and NLAW ISD achieved

3e. Operational impact of ISD variation

NLAW will provide the short range anti-armour capability for all forces operating in the land environment as a replacement for LAW 80. The Interim Light Anti-Armour Weapon (ILAW) was procured under an Urgent Operational Requirement to meet the capability gap created by the early withdrawal of LAW 80. The procurement was scaled for current operations only and presently has a planned Out of Service Date of May-2009. NLAW is being procured for general use (for all arms and services), unlike ILAW which was procured in limited numbers for operations and provides a less effective capability than that which NLAW will deliver.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	NLAW shall be made ready in 10 secs.	Yes	-	-
02	The time to fire for NLAW shall be less than 10 secs.	Yes	-	-
03	The system configured for tactical carriage shall have a mass of not more than 12.5kg	Yes	-	-
04 & 05	Against a moving target Main Battle Tank target, defined as {x} shall achieve a Single Shot Kill Probability (SSKP) of {y} between 20 and 400m	Yes	-	-
06 & 07	Against a moving Light Armoured Fighting Vehicle target, defined as {x} NLAW shall achieve an SSKP of {y} between 20 and 400m	Yes	-	-
08	NLAW shall be capable of being fired safely from within a room through a window opening. The dimensions of the room shall be 4m x 2.5m x 2.5m (high), the window shall be 1m x 1m located in either the long or short wall and 1m above ground level and the door shall be 0.75m x 2m (high). The firer shall be wearing appropriate in service hearing protection.	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
-	-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

The NLAW project predates SMART approvals and as such there was no Initial Gate or Assessment Phase. Following approval to issue an Invitation To Tender to conduct Project Definition studies in September 1997, and subsequent approval for the Project Definition Phase in July 1999, competitive firm price contracts were awarded in October 1999 to Matra BAe Dynamics in the UK and Celsius in Sweden. The delay between approval to issue the Invitation to Tender and contract award was caused by uncertainty over the future of the Medium Range TRIGAT anti-armour programme, and resulted in slippage to the forecast ISD. The Project Definition Phase contracts lasted up to 22 months and bids for the Demonstration, Manufacture and Support phases were received in January 2001. The contractors were required to confirm the performance of their baseline system, developing weapon enhancements and prototype training systems needed to meet NLAW requirements.

Risk reduction and trade-off studies were undertaken and detailed management, milestone and trials plans produced. The opportunities for collaboration with other countries were explored and an MOU with Sweden, facilitating joint development, was signed in June 2002.

Main Gate Approval to proceed to the Demonstration, Manufacture and Support phases, together with downselection to Saab Bofors Dynamics (formerly part of Celsius), was achieved in May 2002. Contract placement followed in June 2002.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	17	5%
Approved Cost at Initial Gate	18	5%
Variation	-1	

5c. Duration of Assessment Phase

Date of Main Gate Approval	May 2002
Date of Initial Gate Approval	-
Length of Assessment Phase [months]	-

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	377	415
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	453	-	588

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	August 2006	November 2006	July 2007
Envelope within which capability was expected to be available at Initial Gate	May 2004	-	August 2006

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POST MAIN GATE PROJECT SUMMARY SHEET

NIMROD MRA4

Integrated Project Team Responsible:

NIMROD MRA4

Single Point of Accountability for project capability:

Director Equipment Capability (Under Water Effect)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Nimrod Maritime Reconnaissance and Attack MK4 (MRA4) will replace the current Nimrod MR2 as the new maritime patrol aircraft. MRA4 will provide significantly enhanced Anti-Submarine and Anti-Surface Warfare capability through improved aircraft and sensor performance, a greater degree of system integration, better Human Machine Interface design and a substantial improvement in availability and supportability.

The MRA4 contract for the design, development and production of 21 aircraft was placed with BAE Systems (then BAe) in 1996, following an international competition. The contract was re-negotiated in mid 1999 and again in early 2002 – when the Department reduced the number of aircraft from 21 to 18. Continued technical and resource problems led to a further review of the programme and in February 2003 the Department reached an agreement with BAE Systems to change the fixed price contract to a Target Cost Incentive Fee (TCIF) contract for Design and Development, which included manufacture of three trials aircraft, and an option for a further fifteen production aircraft. Pending definition of a satisfactory design standard, series production activities were limited to those activities vital to the preservation of the essential skill sets within BAE Systems and its supply chain. Flight trials are underway with all three aircraft.

In July 2004, studies determined that the capability of the MRA4 would enable maritime reconnaissance requirement to be met with a fleet of about 12 aircraft and the number to be procured has been reduced accordingly. A further review of the programme identified increased production costs and that the In-Service Date for the capability would need to be delayed in order to make the programme affordable within Departmental funding constraints. A business case seeking authorisation of commitment to full production was approved in May 2006, and the contract was amended to re-introduce the production requirements in July 2006. As part of the approval process the project's original Key Requirements were redefined and endorsed as Key User Requirements by the Investment Approval Board (IAB) and a revised definition of the In-Service Date was approved. The Initial Gate Business Case for the Assessment Phase of Future Support was approved in May 2005 with Main Gate submission expected around the end of 2007.

1b. Associated projects

Critical to Achievement of ISD		Critical to Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
-	-	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
BAE Systems, Warton	Design and Development	Target Cost Incentive Fee*	Prime Contractor International competition
BAE Systems, Warton	Production	Target Cost Incentive Fee*	Prime Contractor

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	3500
Approved Cost at Main Gate	2813
Variation	+687
In-year changes	-16

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
November 2006	-4	Technical Factors	Interest on Capital recalculated based upon Equipment Plan (EP) 07 profile and reduction in Management Reserve.
November 2006	-7	Accounting Adjustments and Re-definitions	Woodford under-recovery of overhead double counted in EP07 as already included in Company cost forecast.
June 2006	-5	Technical Factors	Review of EP07 estimates & schedule as a result of risk realisation Stability Augmentation System/Stall Identification Device (SAS/SID) has led to increased coherence in the programme resulting in a lower requirement for Management Reserve.
Historic	-80	Changed Requirement	Reduction from 18 aircraft to 12 (-£155m) and associated reduction in Cost of Capital Charge (COCC) (-£10m). Reduction from 21 to 18 aircraft; MPR02 saving of £114m less estimated termination costs of

* Originally let as a fixed price contract.

Date	Variation (£m)	Factor	Explanation
			£70m; MPR03 further savings identified in 2003 planning process (-£16m). Additional commitments as part of the Heads of Agreement (+£35m). Additional costs for assessment of enhanced capability as part of the Agreement announced on 19 February 2003 (+£10m). As a consequence of the Agreement, QinetiQ requirement extended (+£40m). Reduction in cost of assessment of enhanced capability (-£5m). Contract change requirements (+£70m). Reduction in Government Furnished Equipment requirement (-£5m).
Historic	-27	Changed Budgetary Priorities	Reduction in Risk provision (MPR00 -£17m; MPR02 -£17m). Contractor forecast was greater than advised in MPR05 resulting in increased COCC (+£7m).
Historic	+41	Inflation	Variation in Inflation assumptions (+£41m).
Historic	-7	Receipts	Forecast recovery of Liquidated Damages (-£46m) less those to be foregone as part of the Agreement announced on 19 February 2003 (+£39m).
Historic	+24	Contracting Process	Reduction in Risk provision (-56m); and reductions following the renegotiation of contract (-£26m); reduction in programme costs between Main Gate approval and original contract placement (-£37m); original contract was let at provisional indices that were below actual indices (+£16m). Additional costs relating to the agreement announced on 19 February 2003 for Design and Development Target Cost Fee (+£132m). Increased cost in light of company contract quality price for production and associated analysis of revised costing for October 2005 Investment Approvals Board Review Note (+£70m). Overhead recoveries (+£14m), Initial Logistics Support (+£8m), VAT liability on Design & Development support (+£5m), Increase to Management Reserve identified in the Departmental Review (+£5m).

Date	Variation (£m)	Factor	Explanation
			Departmental Review – identified savings from a reclassification of overheads (-£11m), reduction of contractor fee and production costs (-£10m), provision for reduced spares (-£13m), VAT exemption (-£33m), reductions for Initial Logistics Support (ILS) (-£8m), reduced manpower requirements (-£22m), cancellation of spares (-£3m), and reduced COCC (-£7m).
Historic	-363	Accounting Adjustments and Redefinitions	An adjustment of the Historic calculation of the COCC (-£32m). Increase in costs owing to the creation of a trading fund for the Communications Electronic Security Group (CESG) after original approval had been granted (+£1m); derivation of the approved cost on a resource basis (-£19m). Change to take account of an adjustment to the current forecast for MPR01, reflecting the availability of more accurate data (+£29m). Changes caused by the conversion of internal accounting system to full resource basis (-£26m). Difference in variation due to revision of COCC (-£22m). Departmental Review - identified savings with a reclassification of termination spares expenditure (-£176m) and resulting reduction in Cost of Capital charge (COCC) (-£35m). Departmental Review identified savings from reduced COCC from early delivery to the customer (-£69m). Departmental Review – identified savings from reclassification of Adaptable Aircraft costs (-£4m) and reclassification of Consumable Stock (-£7m). MPR05 transposition error (-£3m).
Historic	+1,115	Technical Factors	Increased Production Cost (+£229m) and increased Cost of Capital Charge (COCC) linked to cost change and delay in delivery programme (+£183m). Increase in Defence Evaluation and Research Agency estimate (+£13m). Reduction in the study requirements (-£6m); slower

Date	Variation (£m)	Factor	Explanation
			technical progress than originally envisaged, particularly with wing mass, leading to reduced COCC (+£9m). Reduced COCC linked to reduction in aircraft numbers (-£2m); additional costs relating to the Agreement of February 2003 (+£359m). Increased Programme costs (+£348m).
Net Variation	+687		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	2,742

2d. Years of peak procurement expenditure

2002/2003	2004/2005

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
Development and Production Package	Development and Production Package	21	12

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	**Original ISD Definition**: Delivery of 7th production standard aircraft to Royal Air Force. **MPR04 Definition:** (Part of the 19th February 2003 Agreement with the Company): Delivery of the sixth production standard aircraft to the Royal Air Force. **Reason for Change:** To reflect the reduction in the fleet from 21 to 18 agreed in 2002; six aircraft represents one squadron. **MPR07 Definition**: Provision of 5 aircraft (4 deployable) and 6 combat ready crews. **Reason for Change:** Secretary of State announced in July 2004, post Medium-Term Work Strand studies, a reduction in the number of Nimrod MRA4 aircraft to be procured from 18 to about 12.

3b. Performance against approved in-service date

	Date
Current Forecast ISD	September 2010
Approved ISD at Main Gate	April 2003
Variation (Months)	+89
In-year changes	0

3c. Reasons for variation from approved ISD

Date	Variation (months)	Factor	Explanation
Historic	+89	Technical Factors	To make overall programme affordable within Departmental funding constraints (MPR05 +12 months). Resource and Technical factors at BAE Systems leading to programme slippage: MPR00 +23 months MPR02 +11 months MPR03 +40 months MPR04 +6 months Difference between forecast date reported in MPR99 based on 1999 re-approval at 90% confidence and forecast date reported in MPR00 based on the current plan at 50% confidence (-3 months).
Net Variation	+89		

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	344	-	Additional costs of running on Nimrod MR2
Other	-	150	Reduction in MRA4 support costs in same period
Total	+194		

3e. Operational impact of ISD variation

The consequence of the Nimrod MRA4 ISD slip is that either the Nimrod MR2 would remain in service beyond the current out-of-service date of March 2011 or a capability gap will be endured. This slip will delay introduction of the improved capability of the Nimrod MRA4 and could require the ageing Nimrod MR2 fleet to be maintained in service longer than expected. The operational impact of this slippage will be partly mitigated by measures already in hand to introduce upgrades to some Nimrod MR2 systems. Notably the Acoustic Suite (AQS 971), navigation systems, data links and other communications will address interoperability issues. The AQS 971 programme has benefited by making use of acoustic processors procured for Nimrod MRA4 AQS 970 programme.

SECTION 4: KEY USER REQUIREMENTS

Nimrod MRA4 is a legacy project and its original approval did not include Key Requirements (KRs). The KRs reported to date in the Major Project Report were retrospectively agreed between DEC (UWE) and Nimrod IPTL. Before endorsement was sought, it was discovered that these KRs were not compliant with the latest Smart Acquisition guidelines. Consequently, new Key User Requirements (KUR) were developed from first principles to comply with the latest guidelines and endorsed by the IAB in June 2006.

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	Maritime Counter Terrorism	Yes	-	-
02	Search & Detect (UWE)	Yes	-	-
03	Submarine Attack	Yes	-	-
04	Search & Detect (AWE)	Yes	-	-
05	Tactical Interoperability	Yes	-	-
06	Mission Completion	Yes	-	-
07	Maritime Presence	Yes	-	-
08	Operations in Hostile Environment	Yes	Yes	-
09	Environmental Operating Conditions	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved Key User Requirements

Date	Key Requirement	Factor	Explanation
March 2007	KUR 08	Technical Factors	Technical and financial issues now resolved surrounding procurement of Electronic Warfare Rig thereby allowing aircraft to operate with a self-defence capability. Business Case with Investment Appraisal under compilation. Procurement schedule being determined; anticipate KUR compliance when schedule and risks clearly identified.

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

In November 1992, the Equipment Approvals Committee approved a Request for Information exercise whereby 17 companies were invited to provide responses to the draft Replacement Maritime Patrol Aircraft (RMPA) Staff Requirement. Following analysis of the industry responses, the Equipment Approvals Committee endorsed the requirement and approved an Invitation to Tender phase whereby four companies (BAE Systems, Lockheed Martin, Loral and Dassault) were invited to provide detailed technical and commercial proposals for an aircraft to meet the endorsed Staff Requirement. Dassault withdrew from the competition in January 1996, and whilst Lockheed Martin and Loral merged in May 1996, they maintained the two separate proposals until the competition concluded. Following assessment of these responses, selection of BAE Systems' Nimrod 2000 (later to be re-designated Nimrod MRA4) offer was approved by Equipment Approvals Committee and Ministers in July 1996. This was the equivalent of Main Gate approval.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	5	0.1%
Approved Cost at Initial Gate	4	0.1%
Variation	+1	

5c. Duration of Assessment Phase

Date of Main Gate Approval	July 1996
Date of Initial Gate Approval	-
Length of Assessment Phase [months]	-

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	2813	-
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	-	-	-

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	-	April 2003	-
Envelope within which capability was expected to be available at Initial Gate	-	-	-

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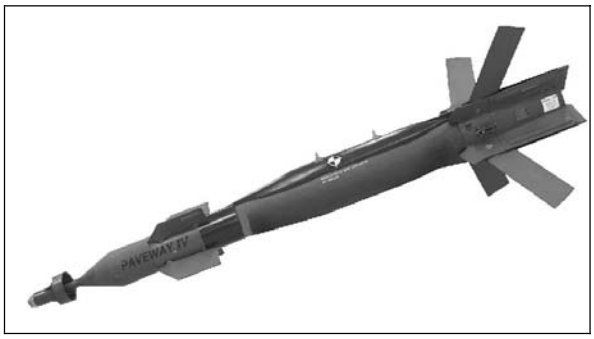
POST MAIN GATE PROJECT SUMMARY SHEET

PRECISION GUIDED BOMB (PGB)



Integrated Project Team Responsible:

PRECISION GUIDED BOMB

Single Point of Accountability for project capability:

Director Equipment Capability (Deep Target Attack)

Senior Responsible Owner for broader capability:

Capability Manager (Precision Attack)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

An all-weather, 24 hour, general-purpose bombing requirement which offered increased accuracy to reduce collateral damage was identified during the 1991 Gulf War and re-emphasised in subsequent operations. The Precision Guided Bomb (PGB) programme was established to meet this requirement and Raytheon Systems Limited (RSL), who offered the Paveway IV weapon, was selected as the Prime Contractor following international competition. Investment Approvals Board (IAB) approval was given in June 2003 for the procurement of the Weapon System and integration onto Harrier, Tornado and Typhoon aircraft. Contract let was planned for September 2003, however Departmental funding constraints delayed contract let and limited it to placement of the main Weapon, support and Harrier GR9 Integration Contracts. These contracts were let in December 2003. Following the approval of PGB integration onto Typhoon as part of the Future Capability Programme (FCP) in January 2007, the integration funding was transferred from PGB IPT to Typhoon IPT. A further submission will be made once the way forward for Tornado integration becomes clear.

Since contract let LASER capability has been added at no cost to the MoD. All milestones have been achieved; 'risk reduction' drops in 2006 were successful, the Weapon System Certificate of Design issued January 2007 and live weapon capability trials started at China Lake.

Work continues across the stakeholder community to deliver capability across all Lines of Development in order to meet the declared In-Service date (ISD). The PGB Programme is entering its final phase of development and is currently progressing qualification of the Weapon System with the aim of delivering Paveway IV by the ISD.

1b. Associated projects

Critical to Achievement of ISD		Critical to Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
Harrier GR9 Capability C Upgrade	2007	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
Raytheon Systems Limited (Prime Contractor)	Demonstration to Manufacture	Firm price	International competition
BAE Systems, Warton	Demonstration to In-Service	Firm price	Non-competitive

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	277
Approved Cost at Main Gate	363
Variation	-86
In-year changes	-67

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
March 2007	-55	Procurement Strategy	Reduction in forecast as a result of transfer of Typhoon integration funding to Typhoon IPT following Typhoon Future Capability Programme (FCP) Phase 1 Main Gate Business Case Approval.
December 2006	-12	Procurement Strategy	Reduction reflects Option E07DT221S – Transfer of PGB Tornado integration 'cost growth' element out of PGB line.
Historic	+3	Accounting Adjustments and Re-definitions	Correction of sunk costs reported in MPR06.
Historic	-4	Technical Factors	Proactive risk management has given rise to a reduction in the level of risk provision required to deliver the Project. This reduction reflects the revised risk predictions following a comprehensive risk review.
Historic	-1	Exchange Rate	Departmental Review - Provision for exchange rate fluctuations now

Date	Variation (£m)	Factor	Explanation
			taken at a corporate level.
Historic	-3	Changed Requirement	The maturity of Data Logging technology precludes use of Data Loggers at this juncture; requirement reassessed and removed (-£1m). Reassessment of the quantity of training rounds required (-£2m).
Historic	-3	Procurement Strategy	Reduction in forecast as a result of prudent Integrated Test Evaluation and Acceptance (ITEA) management.
Historic	+13	Changed Budgetary Priorities	Increase in Tornado integration cost due to DEC Option to delay integration by a further 2 years, then a further 1 year (+£10m, +£8m). Customer 1 (DEC(DTA)) reduction in Equipment Plan 2005 (-£2m). Reduction in forecast against the Control Total at the start of the Financial Year as a result of RSL risk reduction work (-£3m).
Historic	-24	Risk Differential	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate
Net Variation	-86		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	165

2d. Years of peak procurement expenditure

2006/2007	2007/2008

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
0.03	0.03	2303	2303

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	Delivery of 96 weapons, the modification of 12 aircraft of one aircraft type, sufficient trained air and ground crew, all necessary support and a cleared Operational Flight Programme.

3b. Performance against approved in-service date

	Date
Current Forecast ISD	September 2007
Approved ISD at Main Gate	December 2007
Variation (Months)	-3
In-year changes	0

3c. Reasons for variation from approved ISD

Date	**Variation (months)**	**Factor**	**Explanation**
Historic	+3	Contracting Process	Delay to contract award due to the wider constraints on Defence commitments, in particular restrictions on committing In-Year funds.
Historic	-6	Risk Differential	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate.
Net Variation	-3		

3d. Cost resulting from ISD variation

Type of Cost/Saving	**Cost £m**	**Saving £m**	**Explanation**
-	-	-	-

3e. Operational impact of ISD variation

-

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	The Over The Target Requirement (OTR) shall be no greater than that which can be achieved using Mk 82 bombs delivered with 15m Circular Error Probable (CEP).	Yes	-	-
02	The user shall be able to achieve the OTR in all-weathers.	Yes	-	-
03	The user shall be able to achieve the OTR 24-hours a day.	Yes	-	-
04	The user shall be able to programme the weapon with new target co-ordinates in the air prior to release.	Yes	-	-
05	The user shall be able to deliver PGBs from Tornado GR4/4A, Harrier GR9/9A and Typhoon.	Yes	-	-
06	The user shall be able to achieve the effect at the target without causing greater damage to collateral objects than would be created by a Mk 82 bomb delivered within a CEP of 15m.	Yes	-	-
07	The user shall be able to employ the weapon from Harrier GR9/9A on embarked operations from an Invisible Class Aircraft Carrier (CVS).	Yes	-	-
08	The weapon shall have a 75% probability of successfully completing a mission at any stage during its life.	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
-	-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

The purpose of the Assessment Phase was to select the preferred bidder to take forward to Main Gate. Invitations to Tender were released to six companies in October 2001 and six formal tenders were received. A two-stage Assessment Phase resulted in MBDA and Raytheon Systems Limited being taken forward into the final phase of the competition. A Combined Operational Effectiveness and Investment Appraisal (COEIA) was undertaken by Dstl and a technical and commercial assessment of the tenders was undertaken by the PGB IPT and its specialist stakeholders (including QinetiQ and BAE Systems).

The Main Gate Business Case was approved in June 2003. Raytheon Systems Limited, who offered the Paveway IV weapon to meet the PGB requirement, was selected as the preferred contractor.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	5	1.8%
Approved Cost at Initial Gate	3	1.1%
Variation	+2	

5c. Duration of Assessment Phase

Date of Main Gate Approval	June 2003
Date of Initial Gate Approval	July 2001
Length of Assessment Phase [months]	23

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	318	339	363
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	218	-	230

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	September 2006	June 2007	December 2007
Envelope within which capability was expected to be available at Initial Gate	June 2006	-	December 2007

POST MAIN GATE PROJECT SUMMARY SHEET

SOOTHSAYER

Integrated Project Team Responsible:

JOINT ELECTRONIC SURVEILLANCE (JES)

Single Point of Accountability for project capability:

Director Equipment Capability (Intelligence, Surveillance Target Acquisition & Reconnaissance)

Senior Responsible Owner for broader capability:

Capability Manager (Information Systems)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The SOOTHSAYER integrated Land Electronic Warfare (EW) system will provide the Land Commander with a 24 hour, all weather source of intelligence, through its Communications and Non Communications Electronic Support Measures (CESM and NCESM) capability. The system detects, locates and identifies radio and radar signals. In addition, SOOTHSAYER will provide an integrated Communications Electronic Counter Measures (CECM) system. SOOTHSAYER replaces a number of systems including Odette and the Interim Non-Communications Equipment (INCE).

Following a competitive Assessment Phase, a Demonstration and Manufacture contract was placed with Lockheed Martin (Owego USA) in August 2003. SOOTHSAYER will be delivered in three main phases. The first phase, which includes CESM and interim CECM, is expected to be delivered to the Royal Marines in February 2008 (In Service Date [ISD]). The second Capability Phase is planned for delivery to Land in December 2008. Under both phases the system will be fitted to the MEONIC (previously MYSTIC or the Light Role SUPACAT High Mobility Transport (HMT) 6*6) soft skin vehicle. The third phase, assuming an Equipment Planning (EP) Round 2007 realism option has been taken, will provide an armoured CESM and NCESM capability to Land in December 2013.

Delay in the development and delivery of the MEONIC vehicle resulted in a slip to the ISD and an increase in procurement costs being declared in January 2005. Vehicle reliability issues have been addressed and first phase deliveries are now complete. However, technical issues with the development and testing of the CESM have led to the forecast ISD being further delayed.

1b. Associated projects

Critical to Achievement of ISD		Critical to Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
Light Role SUPACAT HMT 6*6	2007	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
Lockheed Martin Systems Integration Owego USA	Demonstration and Manufacture	Firm price	Competition

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	195
Approved Cost at Main Gate	150
Variation	+45
In-year changes	-2

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
March 2007	-2	Changed Budgetary Priorities	EP Option to delay armoured delivery until 2013.
Historic	+55	Change in Associated Project	Expansion of SOOTHSAYER scope to develop the MEONIC vehicle and manage the late supply to Lockheed Martin (Main Gate to Review Note (50%) variation) (+£14m). EP Option to move the armoured platform from the cancelled Multi-Role Armoured Vehicle (MRAV) to an interim platform in 2010 and subsequently, to the Future Rapid Effects System (FRES) around 2013 (+£41m).
Historic	-8	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the highest acceptable (90%) estimate at Main Gate.
Net Variation	+45		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	52

2d. Years of peak procurement expenditure

2007/2008	2010/2011

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	**Current**	**at Main Gate**	**Current**
-	-	-	-

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	Y Troop Royal Marines trained, equipped and ready to support 3 Commando Brigade on a Medium Scale Peace Keeping operation with a mobile CESM/CECM capability

3b. Performance against approved in-service date

	Date
Current Forecast ISD	February 2008
Approved ISD at Main Gate	June 2007
Variation (Months)	+8
In-year changes	+4

3c. Reasons for variation from approved ISD

Date	**Variation (months)**	**Factor**	**Explanation**
January 2007	+4	Technical Factors	Lockheed Martin subcontractor forecast late delivery
Historic	+10	Change in Associated Project	MEONIC late delivery delays SOOTHSAYER integration and test
Historic	-6	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the highest acceptable (90%) estimate at Main Gate
Net Variation	+8		

3d. Cost resulting from ISD variation

Type of Cost/Saving	**Cost £m**	**Saving £m**	**Explanation**
Increase in procurement cost	5	-	Late supply of MEONIC to Lockheed Martin as Government Furnished Assets (GFA) caused increase in Prime Contractor costs
Total	+5		

3e. Operational impact of ISD variation

A reduced EW capability.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	The user shall be provided with an EW capability which can be deployed to areas in the world with climatic conditions A1 to C1.	Yes	-	-
02	The user shall receive timely EW information.	Yes	-	-
03	The user shall be provided with an ECM capability.	Yes	-	-
04	The user shall be provided with an EW capability that meets the SOOTHSAYER target set.	Yes	-	-
05	The system shall be compatible with the developments in the digitisation programme.	Yes	-	-
06	The system shall be interoperable with relevant databases (NCESM).	Yes	-	-
07	The system shall be interoperable with other related systems.	Yes	-	-
08	The platforms should retain mobility classifications after system equipment is installed in order to maintain speed of advance with supported formations.	Yes	-	-
09	The user shall be provided with an EW capability that meets the sustainability criteria expressed in the Battlefield Missions Paper.	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
-	-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

The Initial Gate business case for SOOTHSAYER was approved in August 1999. Following a competition, two prime contractors, Lockheed Martin and Thales Defence, were selected to provide a technical solution along with costs, risks and timescales for a Demonstration and Manufacture phase. Originally, down-selection to one prime contractor was planned for the end of the Demonstration Phase. In April 2002, an extension to the Assessment Phase and further risk reduction work was approved, and agreement given to down-selection at Main Gate Approval.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	24	11%
Approved Cost at Initial Gate	19	9%
Variation	+5	

5c. Duration of Assessment Phase

Date of Main Gate Approval	August 2003
Date of Initial Gate Approval	August 1999
Length of Assessment Phase [months]	48

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	140	142	150
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	95	96	106

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	November 2006	December 2006	June 2007
Envelope within which capability was expected to be available at Initial Gate	-	January 2006	July 2006

POST MAIN GATE PROJECT SUMMARY SHEET

STING RAY LIFE EXTENSION & CAPABILITY UPGRADE (SRLE)

Integrated Project Team Responsible:

TORPEDOES

Single Point of Accountability for Project Capability:

Director of Equipment Capability (Under Water Effect)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Sting Ray lightweight torpedo is the main anti-submarine weapon for ships and aircraft. It entered operational service in 1983 with a planned service-life of around 20 years. To provide an opportunity for international collaboration on a replacement, Sting Ray will remain in-service until around 2025 when it is envisaged that other nations will require replacement lightweight torpedoes. Accordingly the Sting Ray torpedo needed to be life-extended and its capability enhanced.

The Sting Ray Life Extension (SRLE) programme was approved in May 1995 and a contract for full development was awarded to GEC-Marconi Underwater Systems (now BAE Systems Electronics Ltd) on 10th July 1996. The design is complete and the Certificate of Design has been signed off by the authority. Following approval for the SRLE manufacturing phase, a contract was awarded to BAE Systems on 30th January 2003.

In February 2001, as a result of a study into a less sensitive warhead for the life–extended Sting Ray, a new Insensitive Munition warhead was included in the SRLE programme to comply with new Departmental safety policy. This programme has since been deferred and will now be reported as a separate programme.

The Production Qualification Trials were completed in December 2005 and the first torpedo was delivered in February 2006. Delivery of the ISD quantity of torpedoes was achieved in June 2006.

Future milestone: Production Acceptance Trial 3 Sentencing to complete in January 2008.

1b. Associated projects

Critical to Achievement of ISD		Critical to Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
Insensitive Munition Warhead	The ISD for this project will be set when it achieves its Main Gate	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
BAE Systems Electronics Ltd Farnborough (formerly GEC-Marconi Underwater Systems Group)	Full Development and Pre-Production	Fixed Price	Non-competitive Contract with design authority of equipment. No sub-contract competition at first tier level.
BAE Systems Electronics Ltd	Manufacture & In Service Support	Firm price	Non-competitive, but with competition for manufacturing sub-contracts the value of which amounts to 44% of overall value of the manufacture contract.

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	577
Approved Cost at Main Gate	744
Variation	-167
In-year changes	-12

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
January 2007	-5	Technical Factors	Increase in assets delivered in 2006/07 which has reduced Cost of Capital charges
November 2006	-7	Changed Requirement	Sting Ray functionality modifications recognised as a separate Category D programme (-£5m); Transfer of warhead conversion costs to the Insensitive Munitions programme (-£2m).
Historic	-5	Accounting Adjustments and Re-definitions	Correction of in-year expenditure from MPR06 owing to more accurate cost information

Date	Variation (£m)	Factor	Explanation
Historic	+9	Technical Factors	Changes in delivery profile impacting on Cost of Capital charges
Historic	-175	Changed Requirement	Reduction in weapon numbers (-£183m) following two Equipment Planning Options; assessment work on a new Insensitive Munition Warhead, resulting from a Change in Departmental munitions policy (+£12m); removal of warhead life extension finds (-£3m); addition of safety case to comply with new Health and Safety regulations for warships (+£1m); transfer of Military Aircraft Release Vibration trial to Insensitive Munition Programme (-£2m); functionality modifications to the Sting Ray Life Extension programme (+£5m); decrease in QinetiQ support costs (-£5m).
Historic	+25	Changed Budgetary Priorities	Increase in Cost of Capital Charge due to 12 month delay to ISD (+£8m), earlier manufacture payments (+£19m) and rescheduling of test equipment deliveries (+£9m). Revised estimate for Trials activities (+£2m). Reassessment of Demonstration estimate (-£1m). Separation of Insensitive Munition Warhead programme from the SRLE programme (-£12m).
Historic	-1	Inflation	Variation due to revised estimate for development contract Variation of Price clauses (-£1m).
Historic	+4	Contracting Process	Development contract price exceeded estimate at approval (+£4m).
Historic	+5	Accounting Adjustments and Re-definitions	Inclusion of Defence Evaluation and Research Agency (DERA) support previously treated as an intramural charge (+£11m). Reassessment of DERA support expenditure (+£5m). Derivation of the approved cost on a resource basis (+£4m). Difference in variation figures due to a revision of Cost of Capital Charge (-£3m). Removal of potential overhead costs relating to another project (-£12m).

Date	Variation (£m)	Factor	Explanation
Historic	-17	Risk Differential	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimate for the manufacture phase (-£18m). Difference in risk differential due to revision of Cost of Capital Charge (+£1m).
Net Variation	-167		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	395

2d. Years of peak procurement expenditure

2007/2008	2008/2009

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	At Main Gate	Current
***	***	***	***

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	The date when the first 100 production standard weapons have been modified and are ready for issue to an operational unit.

3b. Performance against approved in-service date

	Date
Current Forecast ISD	June 2006
Approved ISD at Main Gate	December 2002
Variation (Months)	+42
In-year changes	+1

3c. Reasons for variation from approved ISD

Date	**Variation (months)**	**Factor**	**Explanation**
June 2006	+1	Technical Factors	Quantity of torpedoes required to achieve ISD not achieved until June 2006.
Historic	+24	Changed Budgetary Priorities	The need to match the MoD programme to available resources in the overall pattern of MoD priorities (+24 months).
Historic	+17	Contracting Process	Delay due to contract negotiations taking longer than expected (+9 months) and reassessment of programme timescales following negotiations (+8 months).
Net Variation	+42		

3d. Cost resulting from ISD variation

Type of Cost/Saving	**Cost £m**	**Saving £m**	**Explanation**
Support costs of current equipment	19	-	Additional In Service Support of present Sting Ray torpedo. (+£19m).
Other	-	14	Reduced In Service Support for updated torpedo (-£14m).
Total	+5		

3e Operational Impact of ISD variation

The ISD delay has enabled additional requirements to be incorporated into the weapon. However, the delay has the potential to cause a capability gap with the older and less effective Sting Ray weapon being retained in service with ongoing consequences for reliability. This capability gap should not be critical.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	Overall Torpedo Effectiveness	Yes	-	-
02	Hit Probability	Yes	-	-
03	Automobile Performance	Yes	-	-
04	Torpedo Counter Countermeasure Capability	Yes	-	-
05	Operational Environment	Yes	-	-
06	Water Depth	Yes	-	-
07	Acoustic Environment Capability	Yes	-	-
08	Warhead and Firing Chain	-	-	Yes
09	Availability, Reliability and Maintainability	Yes	-	-
10	Maintenance & Transport Environment	Yes	-	-
Percentage currently forecast to be met		90 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
Historic	Warhead and firing chain	Technical Factors	The move to an Insensitive Munition warhead with different characteristics from the current Sting Ray mod 0 warhead has meant that this KR will need to be redefined

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

The equivalent of the Assessment Phase occurred within a number of Definition Studies undertaken between 1993 and 1995 under Sting Ray Design services at a cost of £2.6m. These studies considered six options which formed part of the dossier submitted to the Equipment Approvals Committee for Full Development and Pre Production (FDPP) approval. Technical, engineering and environmental specifications together with FDPP, production and in-service support cost plans were also produced.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	-	-
Approved Cost at Initial Gate	-	-
Variation	-	

5c. Duration of Assessment Phase

Date of Main Gate Approval	May 1995
Date of Initial Gate Approval	-
Length of Assessment Phase [months]	-

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	709	727	744
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	-	-	-

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	-	December 2002	-
Envelope within which capability was expected to be available at Initial Gate	-	-	-

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POST MAIN GATE PROJECT SUMMARY SHEET

SUPPORT VEHICLE (SV)

Integrated Project Team Responsible:

GENERAL SUPPORT VEHICLES (GSV)

Single Point of Accountability for project capability:

Director Equipment Capability (Expeditionary Logistics & Support)

Senior Responsible Owner for broader capability:

Capability Manager (Battlespace Manoeuvre)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Support Vehicle programme will procure the future tri-service cargo and recovery vehicles that will increase the military materiel lift/distribution and recovery capabilities. The programme will procure a fleet of vehicles consisting of 42 variants but effectively based around the Light, Medium and Heavy Cargo Vehicles (6, 9 and 15 tonne respectively), the 7,000 litre Unit Support Tanker, the Recovery Vehicle and the Recovery Trailer. These vehicles will replace the in-service 4, 8 and 14 tonne cargo vehicles and the three in-service recovery vehicle types.

The contract to procure 5,165 vehicles was signed on 31 March 2005 and this original contract was extended by a further 2,077 vehicles in July 2006. These extra vehicles were ordered following a comprehensive investment appraisal (and Review Note approval) which demonstrated it to be considerably cheaper to buy new vehicles rather than run on the best of the in-service fleet. The first 6, 9 and 15 Tonne prototype (quantity 14) vehicles have been produced and are undergoing formal Military trials which commenced, on schedule, on 30 October 2006.

The total Support Vehicle Programme provides 6,928 Cargo Vehicles, 288 Recovery Vehicles and 69 Recovery trailers, replacing a fleet of just under 15,000 in-service vehicles.

The In-Service date (ISD) is in 2 stages – 161 Cargo Vehicles in July 2007 and 8 Recovery Vehicles plus 2 Recovery Trailers in February 2008.

1b. Associated projects

Critical to Achievement of ISD		Critical to Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
-	-	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
MAN ERF UK Ltd	Demonstration to In-Service	Firm Price for the first five years, then Fixed Price subject to Variation of Price	International competition

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	1263
Approved Cost at Main Gate	1641
Variation	-378
In-year changes	-75

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
March 2007	-64	Accounting Adjustments and Re-definitions	The cost of warranty, previously included in Demonstration and Manufacture costs, has been transferred to In-service costs.
January 2007	-10	Changed Budgetary Priorities	Removal of the procurement of new Seating Kits from the programme.
August 2006	-1	Changed Requirement	A saving of £19m achieved through negotiation when reducing the number of Recovery vehicles, previously forecast at £18m.
Historic	-6	Technical Factors	Department trials have been integrated with the contractor's trials resulting in progressive acceptance, reduced trials costs and reducing the amount of technical risk funding in future years of the project.
Historic	+37	Changed Requirement	Addition of BOWMAN Installation Kits (+£70m). Additional Seating Kits (+£10m). Future Revenue spend increased to bring project support requirements into line with the revised programme (+£3m). Reduction in SV(Cargo) requirement from the Main Gate

Date	Variation (£m)	Factor	Explanation
			approved quantity of 8,231 to 6,928 SV(Cargo), together with a reduction in, and reprofiling of, future Capital spend (-£28m). Department review resulting in reduction of Recovery Vehicles and Seating Kits (-£18m).
Historic	-69	Changed Budgetary Priorities	Removal of Bowman Installation Kits from the programme in 2002/03 (-£33m). Change of vehicle Mix (+£20m). Option taken in 2002/03 to slip ISD & Compress delivery (+£40m). Reduced Milestone Payments (-£104m). Reduced consultancy costs (-£1m). Option taken to reduce Recovery Vehicles by quantity 75 (-£48m) and changed deliveries profile (-£5m). Better estimates of industry costs (+£52m). Change in Cost of Capital Charge due to revised accruals profile (+£10m).
Historic	+9	Accounting Adjustments and Re-definitions	Derivation of approved cost on a resource basis (-£4m). Difference in variation figures due to revision of Cost of Capital Charge from 6 to 3.5% (+£13m).
Historic	-274	Risk Differential	Difference between the risk allowed in the most likely (50%) and highest acceptable (90%) estimate at Main gate (-£275m). Variation due to revised approval figures (+£1m).
Net Variation	-378		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	84

2d. Years of peak procurement expenditure

2009/2010	2010/2011

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
***	***	8,231 Cargo	6,928 Cargo
***	***	389 Recovery	288 Recovery
***	***	69 Recovery Trailers	69 Recovery trailers

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	Achievement of an operational capability with 161 cargo vehicles, 8 recovery vehicles and 2 recovery trailers with the appropriate supporting through life package.

3b. Performance against approved in-service date

	Date
Current Forecast ISD	February 2008
Approved ISD at Main Gate	April 2006
Variation (Months)	+22
In-year changes	0

3c. Reasons for variation from approved ISD

Date	**Variation (months)**	**Factor**	**Explanation**
Historic	+2	Technical Factors	Increased time given to all bidders to finalise their technical solution (+1 month). Time added to review the technical solutions and the need to revise the support strategy (+1 month).
Historic	+17	Contracting Process	Unanticipated second round of tendering required to address commercial risks, costs, performance & time efficiencies (+2 months). Additional time required by bidders to prepare, and the MoD to evaluate, the second round bids (+5 months). Time necessary to prepare and evaluate unanticipated third round of bidding and change to fielding plan / ISD (+5 months). Time necessary for approvals and contractual negotiations (+5 months).
Historic	+10	Changed Budgetary Priorities	Planning measure to reduce SV recovery vehicle quantities from 389 to 314 and delay first deliveries until February 2008.
Historic	-7	Risk Differential	Change in risk (time) allowed between the most likely (50%) and the highest acceptable (90%) estimates at Main Gate (-7 months).
Net variation	+22		

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of the current equipment	29	-	The cost of running on the current fleet.
Total	+29		

3e. Operational impact of ISD variation

The delayed ISD has resulted in the life of the current equipment being extended, leading to additional support costs and a delay in fielding an increased operational capability.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
	Support Vehicle (Cargo & Recovery)	-	-	-
1	The Support Vehicle Recovery and Support Vehicle Cargo shall be capable of meeting the Defence Planning Assumptions	-	-	Yes
2	Capable of operating in world-wide climatic conditions	-	-	Yes
3	Compatible with existing and planned replenishment systems	Yes	-	-
4	Capable of completing a 48hr Battlefield Mission without replenishment	Yes	-	-
5	Able to communicate with other units in their formation	Yes	-	-
6	Capable of strategic deployment including by sea	Yes	-	-
	Support Vehicles (Cargo only)	-	-	-
7	Capable of completing required Battlefield Mission	Yes	-	-
8	Deployable in its operation state by air	Yes	-	-
9	Capable of operating within the same parameters as other vehicles classified as Medium Mobility	Yes	-	-
	Support Vehicle (Recovery only)	-	-	-
10	The Land, Littoral and Air components shall have the capability to recover bogged, damaged and broken down wheeled and light A vehicles and provide the lift capability to the repair process in order to return them to operational use.	Yes	-	-
11	Capable of recovering military vehicles in an operational environment (including tactical operations throughout day & night).	Yes	-	-
12	Capable of lifting engines and main assemblies as part of the operational repair process	Yes	-	-
13	Capable of manoeuvring engines and main assemblies as part of the operational repair process	Yes	-	-
14	Capable of moving solo over the same terrain, within the same timeframe, as the B vehicles it supports	Yes	-	-
15	Capable of recovering casualty vehicles from point of failure to a place of repair	Yes	-	-
Percentage currently forecast to be met*		88%		
In-Year Change		0		

* 23 of the full list of 26 KURs are to be met. The MPR contains an abbreviated list for simplicity.

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
Historic	1	Changed Budgetary Priorities	Relaxed requirement as a result of capability/cost trade off.
Historic	2	Changed Budgetary Priorities	Relaxed requirement as a result of capability/cost trade off.

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

There was no Assessment Phase. The SV programme had its origin as the Future Cargo Vehicles (FCV) and the Future Wheeled Recovery Vehicle (FWRV) projects. These were launched as potential Private Finance Initiative (PFI) programmes with advertisements in August 1998 and September 1999 respectively. The FCV project progressed through Pre-Qualification and Outline proposal stages with five bidders short-listed. An Initial Gate Business Case was drafted in December 1999, but was not submitted for approval because it did not demonstrate value for money.

Further work was requested to identify areas for further innovation, and also to develop a 'smart' Public Sector Comparator (PSC). Work continued to produce a more robust case but it became clear that confidence in PFI procurement was unlikely to improve. The decision was taken in March 2001 to replace the PFI procurement strategy with a conventional strategy and hold a fresh competition. Furthermore the FCV and FWRV programmes were merged into a single procurement and proceeded directly to the main investment decision which was secured in November 2001. The project bypassed the Assessment Phase because it was concluded that the technologies were mature and as the Department had, during the PFI phase of the project, acquired a detailed knowledge of the commercial vehicle sector, the risks were low. It was also necessary to avoid further delays in order to maintain industrial interest in the requirement. The time and cost boundaries were set at Main Gate and following an advertisement placed in the MoD Contracts Bulletin, a short-list of six prime contractors was drawn up.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	-	-
Approved Cost at Initial Gate	-	-
Variation	-	

5c. Duration of Assessment Phase

Date of Main Gate Approval	November 2001
Date of Initial Gate Approval	-
Length of Assessment Phase [months]	-

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	1180	1367	1641
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	-	-	-

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	November 2004	September 2005	April 2006
Envelope within which capability was expected to be available at Initial Gate	-	-	-

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POST MAIN GATE PROJECT SUMMARY SHEET

TERRIER

Integrated Project Team Responsible:

MOBILITY (MOB)

Single Point of Accountability for project capability:

Director Equipment Capability (Ground Manoeuvre)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

Terrier is designed to be a highly mobile, robust and reliable armoured earthmoving vehicle, which will support mobility, counter mobility and survivability throughout the spectrum of conflict. It will be optimised for battlefield preparation and used by Close Support (CS) Engineer units. Terrier is being procured to replace the capability provided by the Combat Engineer Tractors (CET). The programme was let under competitive tender and is now over midway through its Demonstration Phase which is due to complete in January 2009. Throughout the year the Prototype vehicle has been used to prove the technical capability of Terrier and to start the reliability improvement programme. The programme has been adversely affected by a change in the Customer's requirement for Bowman communications system; this has required the instigation of a new project to develop and demonstrate a revised fit for Terrier. The consequence of this change is reflected in this report. There has been progress with the A400M aircraft in so much as it has been shown technically feasible to reinforce the cargo floor. The A400M Integrated Project Team (IPT) has an action in hand for this modification. The four Demonstrator vehicles are in the course of construction and will be available for the next phase of testing over the next six months. Release for Production (Milestone 12) is the next key event and is planned for late 2007.

1b. Associated projects

Critical to Achievement of ISD		**Critical to Initial Gate Requirement**	
Project Title	Forecast ISD	Project Title	Forecast ISD
-	-	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
BAE Systems Land Systems (formally known as Royal Ordnance plc)	Demonstration to Manufacture	Firm/Fixed price	United Kingdom competition
BAE Systems Land Systems (formally known as Royal Ordnance plc)	Contractor Logistic Support (first five years)	Fixed price	United Kingdom competition

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	299
Approved Cost at Main Gate	304
Variation	-5
In-year changes	+3

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
March 2007	+3	Technical Factors	Residual Terrier cost growth caused by, and remaining after, customer-driven Bowman requirements change.
December 2006	-17	Procurement Strategy	Requirements change for Bowman (+£9m) and Training Infrastructure (+£8m) transferred to separate projects.
July 2006	+17	Changed Requirement	Requirements for Bowman and Training Infrastructure changed.
Historic	-3	Accounting Adjustments and Re-definitions	Departmental Review - Inclusion of projected Year End Accruals for the remainder of the project. This change reduces the annual Net Assets balance and the subsequent Cost of Capital Charge.
Historic	+4	Contracting Process	Cost of Capital – Difference between the profile of the Asset Deliveries prior to contract placement and those included in the current forecast cost.
Historic	-9	Risk Differential	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate.
Net Variation	-5		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	92

2d. Years of peak procurement expenditure

2008/2009	2009/2010

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
3.1	2.6	65	65

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	A total of 20 equipments delivered (4 to Army Training and Recruiting Agency (ATRA) & 16 to Land Command) and supportable (Logistic Support Date (LSD) achieved, training in place, 20 crews trained).

3b. Performance against approved in-service date

	Date
Current Forecast ISD	September 2009
Approved ISD at Main Gate	December 2008
Variation (Months)	+9
In-year changes	+12

3c. Reasons for variation from approved ISD

Date	Variation (months)	Factor	Explanation
July 2006	+12	Changed Requirement	Customer change in requirements for Bowman.
Historic	-3	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the approved figures at Main Gate.
Net Variation	+9		

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	Costs for this delay have been factored and subsumed into the Department's assessment of Force Level Requirements

3e. Operational impact of ISD variation

The requirements change for the Bowman communications system was driven by the end user organisations as a result of tests carried out on the installation in Combat Engineer Tractor (CET). The choice lay between accepting Terrier into service with a Bowman installation which could not support the operational communications required for safe operation or accepting a delay to the ISD. Balancing the operational risk of having a severely limited Terrier capability due to the safety concerns, or having a fully capable one late, the Customer chose the latter. The current situation with CET is that in view of the safety concerns, it can only be used on operations under a waiver signed at 2 star or in a highly controlled training environment where communication off platform is not required. Those CET that have been converted to a Bowman communications fit are being held in a controlled humidity environment at the Ashchurch storage facility so that should an operational waiver be signed they can be delivered to the operation.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	User shall be able to dig vehicle slots	Yes	-	-
02	User shall be able to dig, carry and load spoil & rubble	Yes	-	-
03	User shall be able to dig trenches	Yes	-	-
04	User shall be able to grapple, grab and carry items weighing no more than 2 tonnes over short distances	Yes	-	-
05	At battleweight should not exceed 31.5 tonnes	Yes	-	-
06	User shall be able to deploy by air	Yes	-	-
07	User shall be afforded levels of indirect fire protection commensurate with its role	Yes	-	-
08	User shall be afforded levels of direct fire protection commensurate with its role	Yes	-	-
09	User shall have a 70% probability of completing a battlefield mission without failure	Yes	-	-
10	User shall have a 13.5% probability of completing a BFM without basic failure	Yes	-	-
11	User should be able to maintain required capabilities while operating in climatic categories A2 to C1	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
March 2007	KUR 06	Technical Factors	The air transportability of Terrier has been successfully addressed by the A400M IPT through the placing of a contract amendment with Airbus Military Sociedad Limitada for a Locally Reinforced Cargo Floor.
Historic	KUR 06	Technical Factors	Terrier must be air transportable. Verification criteria requires this to be demonstrated in A400M. The A400M cargo floor loading study shows that it is possible to modify the floor to take Terrier. We are now awaiting the outcome of the DEC Expeditionary Logistics & Support (ELS) funding review

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

A funded feasibility study for Terrier concluded that the most cost-effective way of meeting the requirement was to develop a new vehicle, where possible integrating in-service sub-systems and commercial off-the-shelf equipment. Approval was given for a competitive Project Definition phase in August 1998 and Firm Price contracts were placed in August 1999 with BAE Systems (with the work undertaken by its subsidiary Royal Ordnance plc) and Vickers Defence Systems. Both contractors developed detailed designs making extensive use of Computer Aided Design tools, virtual reality modelling, rigs and trials. The capabilities required and constraints imposed by physical limitations, such as rail and air transportability, resulted in very similar technical solutions. Both contractors offered tracked vehicles close in size weight and mobility to the Warrior tracked infantry fighting vehicle, having a crew of two and providing protection against small arms, high explosive fragments and mines. An Invitation to Tender (ITT) was issued in February 2001 to both companies which sought detailed proposals and prices for all later phases. The ITT also adopted Smart Acquisition initiatives such as Progressive Acceptance and innovative Contractor Logistic Support proposals. The Main Gate Business Case was approved on 17 July 2002. The contract for Demonstration, Manufacture and Phase 1 Contractor Logistic Support was placed with Royal Ordnance plc on 19 July 2002.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	17	5%
Approved Cost at Initial Gate	17	5%
Variation	0	

5c. Duration of Assessment Phase

Date of Main Gate Approval	July 2002
Date of Initial Gate Approval	August 1998
Length of Assessment Phase [months]	47

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	284	294	304
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	-	291	-

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	July 2008	September 2008	December 2008
Envelope within which capability was expected to be available at Initial Gate	-	December 2007	December 2008

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POST MAIN GATE PROJECT SUMMARY SHEET

TYPE 45 DESTROYER

Integrated Project Team Responsible:

TYPE 45 DESTROYER

Single Point of Accountability for project capability:

Director of Equipment Capability (Above Water Effect)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Type 45 is a new class of eight* Anti-Air Warfare Destroyers, to replace the capability provided by the Royal Navy's existing Type 42s. The warship is being procured nationally. The Type 45 will carry the Principal Anti-Air Missile System (PAAMS) which is capable of protecting the vessels and ships in their company against aircraft and missiles, satisfying the Fleet's need for area air defence capability into the 2030s. PAAMS is being procured collaboratively with France and Italy. The Type 45 Integrated Project Team is responsible for providing PAAMS to the warship Prime Contractor.

BAE Systems Electronics was appointed Prime Contractor for the Type 45 in November 1999 and a contract for Demonstration and First of Class Manufacture (DFM) for the first three ships was placed in December 2000. A contract for a further three Type 45s was placed with the Prime Contractor in February 2002. The ships are being built under sub-contract by BAE Systems Naval Ships and VT Shipbuilding.

The past year has seen significant progress in the manufacture of the six ships. All ships are now in production following the cutting of steel for the sixth ship in January 2007. The second ship (HMS Dauntless) was launched January 2007 and the third ship (HMS Diamond) is scheduled for launch in November 2007. The First of Class (HMS Daring) has now been fitted with most of her equipment and is planned to start sea trials this year.

* The Type 45 is a planned class of eight ships. Approval has, so far, only been given for six ships. It is on the Approval of six ships that the Major Projects Report is presented.

1b. Associated projects

Critical to Achievement of ISD		Critical to Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
-	-	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
BAE Systems Electronics Ltd Farnborough	Full development and production	Fixed price incentive fee with a maximum price	Single source
EUROPAAMS	Full scale engineering development and initial production including missiles for initial use.	Fixed price	Collaborative with France and Italy
EUROPAAMS	Follow-on ships production	Fixed price for five follow-on equipments	Collaborative with France and Italy
EUROSAM & UKAMS*	Production of missiles	Fixed price	Collaborative with France and Italy through OCCAR

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	6464
Approved Cost at Main Gate	5475
Variation	+989
In-year changes	+354

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
March 2007	+462	Contracting Process	Estimated increase in ship build cost based on an assessment of the 'Six Ship Proposal' price from the Prime Contractor.
March 2007	-30	Changed Budgetary Priorities	EP07 savings measure to reduce the quantity of PAAMS missiles.
March 2007	-78	Accounting Adjustments and Re-definitions	As a direct result of a move of ship build from Barrow to Clyde, in line with Maritime Industrial Strategy principles, there has been an increase in overheads for the 'Six Ship Proposal' price that is not directly attributable to this project.

* UKAMS is a wholly owned company of MBDA

Date	Variation (£m)	Factor	Explanation
Historic	+36	Technical Factors	Issues arising from migrating from Skynet 4 to Skynet 5 and to implement system growth (+£3m). Increase in Cost of Capital resulting from ISD slippage (+£33m).
Historic	-8	Changed Budgetary Priorities	A combination of Equipment Plan Options plus internal adjustments, and Cost of Capital. The Options were: re-profiling of the contract for demonstration and manufacture (approved six-ship programme); re-profiling of the (planned) twelve ship programme; reducing the scope of the PAAMS missile buy and costs of shipbuilders' premium (+£91m). Increases to the PAAMS contract and additional funding and increases in delay and dislocation money (+£177m). Incremental Acquisition Programme (IAP) re-profiling and IAP upgrade deleted (-£238m). Equipment Plan Options re-profiling costs for ships five and six and deferring ships seven and eight (+£2m) and the associated Cost of Capital (+£12m). Correction to forecast: costs wrongly attributed to ships seven & eight (+£26m). PAAMS increased cost of Longbow mooring (+£4m). Cost of Capital associated with estimated cost growth of ship Batch 2 reported at MPR04 (+£54m). Cost of Capital relating to PAAMS increased cost (exchange rate) and re-profiling (+£10m). Savings in ships capability (performance) to bring costs back to EP05 baseline; Combat Systems risk provision (-£60m), Whole Life Support (support solution study) (-£21m) and Incremental Acquisition Programme (IAP) (-£64m). Revised estimate of WR21 engine concept/assessment phase (-£1m).
Historic	+998	Contracting Process	Estimated increase in ship build cost (+£184m) and associated cost of capital (+£18m). Costs omitted from EP05 and MPR05 relating to increase in ship build cost (+£52m) and associated cost of capital (+£5m).

Date	Variation (£m)	Factor	Explanation
			Higher than expected costs for PAAMS Production Equipment (+£124m). Corrections to Warship costs (+£13m). Expected increase in costs of elements of batch two ships which are yet to be negotiated (+£250m). Corrections and adjustments to forecast costs (+£97m). PAAMS missiles re-instated (+£173m). Increase in Cost of Capital due to corrections to PAAMS (+£82m).
Historic	+55	Exchange Rate	£ to € rate worse than originally forecast (+£47m). PAAMS exchange rate (impact of rate at EP05) (+£8m).
Historic	+29	Accounting Adjustments and Re-definitions	Reduction in cost of capital (-£9m) due to lower than expected cash expenditure in 2005/06 (closing accrual higher than estimated). Transfer to Maritime Training Systems IPT (-£35m) and associated cost of capital (-£1m). Difference in variation figures due to revision of Cost of Capital Charge (-£24m). Adjustment to previous years Cost of Capital figures due to system error (+£98m).
Historic	-475	Risk Differential	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-£506m). Increase in risk due to re-calculation of Cost of Capital (+£31m).
Net Variation	+989		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	3477

2d. Years of peak procurement expenditure

2003/2004	2004/2005

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
582	650	6	6

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	The date to which the First of Class will meet the Customer's minimum operational requirement.

3b. Performance against approved in-service date

	Date
Current Forecast ISD	November 2010
Approved ISD at Main Gate	November 2007
Variation (Months)	+36
In-year changes	+11

3c. Reasons for variation from approved ISD

Date	Variation (months)	Factor	Explanation
March 2007	+11	Technical Factors	Latest Timescale Risk Analysis founded on data from Six Ship Proposal from BAE Systems.
Historic	-1	Technical Factors	Refinement of timescale risk analysis shows that there are a number of opportunities in the programme which support a most likely date of December 2009. Principal among these is the opportunity for parallel working that is not yet fully exploited within industry's plan and the potential to use the second ship to demonstrate elements of First of Class capability.
Historic	+3	Technical Factors	Impact of slippage to SAMPSON programme and measures taken to mitigate the full impact of that delay.
Historic	+2	Technical Factors	Assessment based on full timescale risk analysis (conducted jointly with BAES) which gave a most likely date of March 2010, based on baseline programme. Agreement reached with company and Customer 1, however, on how Stage 2 trials programme can be de-scoped thereby giving a Most Likely date of October 2009.
Historic	+3	Technical Factors	Latest assessment based on timescale risk analysis of most up to date programme reflecting de-scoping of trials programme.

Date	Variation (months)	Factor	Explanation
Historic	+24	Procurement Strategy	Longer than expected design phase plus an acknowledgement that a number of other factors which had impacted earlier in the programme had injected unrecoverable delay. These factors were principally related to delays in agreeing the original industrial strategy; problems associated with managing parallel and dependant development programmes and a better understanding of the programme to deliver ISD. (MPR02 +6 months; MPR04 +18 months).
Historic	-6	Risk Differential	Difference between the risk allowed for in the most likely (50%) and the highest acceptable (90%) estimate at Main Gate (- 6 months).
Net Variation	+36		

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
March 2007	2	-	Additional maintenance periods required to run-on T42 Destroyer for 11 months*.
Historic	1	-	Additional maintenance periods required to run-on T42 Destroyer for 7 months.
Historic	196	-	Additional T42 run-on costs due to T45 slippage.
Total	+199		

3e. Operational impact of ISD variation

Delay in ISD further extends the period before a capability to defeat multiple attacks by sea-skimming missiles will be available, as well as the capability for Royal Navy escorts to provide tactical control of combat aircraft.

* Relates to slippage in ISD of T45 First of Class only, to align with the definition of ISD at Section 3a.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	PAAMS. The T45 shall be able to protect with a Probability of Escaping Hit of {x} all units operating within a radius of 6.5km, against up to 8 supersonic sea skimming missiles arriving randomly within {y} seconds.	Yes	-	-
02	Force Anti-Air Warfare Situational Awareness. The T45 shall be able to assess the Air Warfare Tactical Situation of 1000 air real world objects against a total arrival and/or departure rate of 500 air real world objects per hour.	Yes	Yes	-
03	Aircraft Control. The T45 shall be able to provide close tactical control to at least 4 fixed wing aircraft, or 4 groups of aircraft in single speaking units, assigned to the force.	Yes	Yes	-
04	Aircraft Operation. The T45 shall be able to operate both one organic Merlin (Anti-Submarine Warfare and Utility variants) and one organic Lynx Mk8 helicopter, although not simultaneously.	Yes	-	-
05	Embarked Military Force. The T45 shall be able to operate an Embarked Military Force of at least 30 deployable troops.	Yes	-	-
06	Naval Diplomacy. The T45 shall be able to coerce potential adversaries into compliance with the wishes of Her Majesty's Government or the wider international community through the presence of a Medium Calibre Gun System of at least 114mm.	Yes	-	-
07	Range. The T45 shall be able to transit at least 3000 nautical miles to its assigned mission, operate for 3 days and return to point of origin, unsupported throughout, within 20 days.	Yes	-	-
08	Growth Potential. The T45 capability shall be able to be upgraded to incorporate new capabilities or to enhance extant capabilities through displacement Margins of at least 11.5%.	Yes	-	-
09	Availability. The T45 shall have a 70% availability to contribute to Maritime Operations over a period of at least 25 years, of which at least 35% shall be spent at sea.	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
September 2006	KUR 04	Technical Factors	IPT & DEC agreed to conduct "First of Class Flying Trials" with a Merlin. This will remove the expectation that at ISD only Lynx capability will have been demonstrated.
Historic	KUR 02	Changed Budgetary Priorities	Revised programme to achieve earliest possible ISD leads to a lower level of Combat Management System functionality at ISD.
Historic	KUR 03	Changed Budgetary Priorities	Revised programme to achieve earliest possible ISD leads to a lower level of Combat Management System functionality at ISD.
Historic	KUR 04	Technical Factors	Ability to operate Lynx but not Merlin will be demonstrated by Full Operating Capability ISD. Merlin will be demonstrated beyond ISD.

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

The Type 45 Destroyer programme builds on the Assessment work carried out in Phase 1 of the collaborative HORIZON project, the warship element of the Common New Generation Frigate programme. Following the decision of the three HORIZON partners (France, Italy and the United Kingdom) to proceed with PAAMS, but to pursue national warship programmes, BAE Systems was appointed Prime Contractor for the Type 45 in November 1999. The contract for PAAMS Full Scale Engineering Development and Initial Production was placed in August 1999. Main Gate approval for the warship was achieved in July 2000 and a contract for Demonstration and First of Class Manufacture was placed in December 2000.

5b. Cost of the Assessment Phase*

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	232	3.5%
Approved Cost at Initial Gate	213	3.2%
Variation	+19	

5c. Duration of Assessment Phase

Date of Main Gate Approval	July 2000
Date of Initial Gate Approval	July 1991†
Length of Assessment Phase [months]	108‡

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	5000	5475
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	-	-	7689

* The Assessment Phase costs approved at Initial Gate did not take into account that all expenditure on the WR21 engine was to be treated as Assessment Costs rather than Manufacturing Costs.

† T45 Destroyer is a legacy project that drew upon the concept work of Project Horizon and Future Frigate. T45 did not formally go through Initial Gate, but for MPR2000, the NAO agreed that EP11/91 should be equated as Initial Gate for T45.

‡ This aligns with the derived date for Initial Gate above. T45 is a legacy project building on the Assessment work carried out in phase 1 of the collaborative Horizon Project..

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	-	May 2007	November 2007
Envelope within which capability was expected to be available at Initial Gate	-	-	December 2002

POST MAIN GATE PROJECT SUMMARY SHEET

TYPHOON

Integrated Project Team Responsible:

TYPHOON

Single Point of Accountability for project capability:

Director Equipment Capability (Theatre Airspace)

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

Typhoon, formerly known as Eurofighter, is an agile multi-role combat aircraft. Originally designed primarily, but not exclusively, for air superiority the aircraft will also be capable of delivering a precision ground attack capability. Typhoon will have the flexibility to respond to the uncertain demands of the current strategic environment and will enable the Royal Air Force to replace progressively the Tornado F3 and Jaguar aircraft.

The aircraft is being developed in a collaborative project with Germany, Italy and Spain, and is managed on behalf of the four nations by the NATO Eurofighter and Tornado Management Agency (NETMA). The contract for the first Tranche of 148 aircraft, of which 55 valued at some £2.5bn are for the UK, was signed in September 1998. The second Tranche comprising 236 aircraft, 89 of which are for the UK, was placed on contract in December 2004. A decision on the third Tranche of 232 aircraft (88 for the UK) is not required before 2008. The estimated current cost of Typhoon was classified in MPR05 and remains so in MPR07, in order to protect the UK's ability to negotiate for any subsequent purchase of the aircraft.

Typhoon has now been in service with the RAF for nearly four years and completed over 7,000 flying hours. The first operational squadron, No.3 (Fighter) Squadron, formed on 31 March 2006, are currently spearheading the work to take over Quick Reaction Alert duties from the Tornado F3 Force in Summer 2007. The formation of a second operational squadron, 11(F) Squadron, took place in March 2007.

A contract was secured in July 2006 to deliver an austere precision air-to-surface capability on RAF Typhoon, providing the ability to mount all weather autonomous precision ground attack missions. This will be provided in advance of a more comprehensive air-to-surface package which is contained within the Typhoon Future Capabilities Programme (FCP), which has been the subject of a separate approval by the UK MoD approving authorities and achieved final contract signature in March 2007.

Potential export customers have been identified and the Department (in conjunction with the Typhoon Partner Nations and industry) is supporting a number of export campaigns. The first export customer, Austria, signed a procurement contract in July 2003 for deliveries to begin in 2007, and a Memorandum of Understanding was signed in December 2006 by the Four Nations and Austria for the Association of Austria with the Typhoon Programme.

1b. Associated projects

Critical to Achievement of ISD		Critical to Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
-	-	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
Eurofighter GmbH Airframe consortium comprising: Alenia BAE Systems EADS(CASA) EADS(Deutschland)	Development	Fixed Price for Airframe and equipments and Target Cost Incentive Arrangement for Aircraft Equipment Integration. Following a breach of the Limit of Contractor Liability provisions the price elements for Airframe and equipments have been converted to a Limit of Liability cost reimbursement without profit.	Non-competitive but with international sub-contract competitive elements, the value of which amounts to some 30% of the overall value of the Prime Contract.
Eurojet Turbo GmbH Engine consortium comprising: Avio (formerly FIAT Avio), ITP, MTU, Rolls Royce	Development	Fixed Price (Avio, ITP, MTU) Fixed Price (Rolls-Royce) for propulsion systems	Non-competitive but with international sub-contract competitive elements, the value of which amounts to some 10% of overall value of the Prime Contract.
Eurofighter GmbH Airframe consortium (see details under development above).	Production Investment/ Production	Overall Maximum Prices for Production Investment and Production of Airframes for all 232 UK Aircraft (Fixed prices for production of 1st and 2nd Tranche Airframe). Fixed Prices for all Production Investment and Production of Aircraft Equipment.	Non-competitive but with international sub-contract competitive elements, the value of which amounts to some 30% of the overall value of the Prime Contract.
Eurojet Turbo GmbH Engine consortium (see details under development above).	Production Investment/ Production	Overall Maximum Prices for Production Investment and Production of Engines for all 232 UK aircraft. Fixed/Firm prices for	Non-competitive but with International sub-contract competitive elements, the value of which amounts to some 10% of the overall value

Contractor(s)	Contract Scope	Contract Type	Procurement Route
		Tranche 1 and Tranche 2 Engine Production Investment and Production.	of the Prime Contract.

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	***
Approved Cost at Main Gate	16671
Variation	***
In-year changes	***

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
March 2007	***	Technical Factors	Re-assessment of Tranche 2 estimated cost ***, Revised assessment of Tranche 2 aircraft production contract ***, Revised assessment for cost of Tranche 2 engine production contract ***, Revised provision for future changes to production standards ***, Revised estimate for retrofitting early Tranche 1 aircraft to final production standard ***, Revised estimate for the precision air to ground capability ***, Reduction in value of Role equipment required for multi role Squadrons ***, Revised assessment of cost of NETMA and industry management fees ***, Reduction in forecast for cost of release to service support ***.
March 2007	***	Procurement Strategy	Transfer to Future Capability Programme.
March 2007	***	Technical Factors	Variation in Cost of Capital Charge due to revised cost and profiling of cost and deliveries
Historic	***	Technical Factors	Variation in Cost of Capital Charge due to re-profiling of consumption and delivery ***.

Date	Variation (£m)	Factor	Explanation
Historic	***	Technical Factors	Correction of omission of transferred cost in MPR05 calculation ***.
Historic	***	Contracting Process	Industry restructuring.
Historic	***	Changed Requirement	Removal of provision for new weapons and Tranche 1 to Tranche 2 retrofit to create separate Typhoon future capability project (FCP); subject to approval by Investment Approvals Board (IAB) ***. Separation of Tranche 3 ***.
Historic	+1506	Technical Factors	Higher than expected Development costs, notably for equipments (+£316m). Obsolescence costs resulting from rapid changes in computer hardware technology (+£33m). Increases in the estimated cost of enhancing the weapons system operational capabilities (+£140m). Additional Cost of Capital Charge plus further price variation due to slippage in the programme (+£610m). Reassessment of the cost of developing aircraft Enhanced Operational Capability and the production of Tranches 2 & 3 aircraft (most notably the reduced scope for savings due to learning curve efficiency gains) (+£320m). Slower than expected technical progress reducing asset balances thereby reducing Cost of Capital Charge (-£45m). 9 Month deferral of beneficial use date (+£132m Cost of Capital Charge).
Historic	+290	Changed Requirement	Provision for integration of new weapons and sensors not contained within original approval (includes Conventionally Armed Stand-Off Missile (CASOM), Advanced Anti-Armour Weapon (AAAW), Low-Level Laser Guided Bomb (LLLGB), thermal imaging airborne laser designator (+£239m) & the retrofit of Tranche 1 aircraft to Tranche 2 standard (+£117m). Deletion of requirements for gun (-£32m),1500L fuel tank (-£16m), CRV7 Rocket (-£2m) & Air Launched Anti Radiation Missile (-£21m). CASOM integration assets (+£5m).

Date	Variation (£m)	Factor	Explanation
Historic	-13	Changed Budgetary Priorities	Reprofiling of expenditure, reducing asset balances and thereby reducing Cost of Capital Charge (-£5m). Transfers to other budgets (-£8m).
Historic	-103	Inflation	Changes in inflation assumptions since approval: development (+£205m) and production (-£308m).
Historic	-114	Exchange Rate	Changes in exchange rate assumptions since approval (-£114m).
Historic	-52	Contracting Process	Reprofiling and adjustment of anticipated Tranches 2 and 3 Airframe, Equipment and Engine prices (+£103m). Introduction of benefits to be assumed from planned implementation of SMART Procurement processes (-£165m). Reassessment of the cost and timing of integrating new weapons (+£5m). Increased estimates for QinetiQ/Dstl test facilities in support of the development trials programme (+£5m).
Historic	+413	Procurement Strategy	German withdrawal from certain equipments (+£106m). Reorientation Development Assurance Programme(DAP) to bridge gap between Development and Production Investment (+£28m); extension of Integrated Logistic Support (ILS) programme (+£45m); Eurofighter/Eurojet GmbH management costs (+£30m); contract price increases (+£87m); risk provision (+£117m).

Date	Variation (£m)	Factor	Explanation
Historic	+416	Accounting Adjustments & Re-definitions	Changes in accounting rules (inclusion of intramural costs) (+£275m); transfer costs of industrial consortia management activities from production phase to support phase (-£218m); derivation of approved cost on a resource basis (+£202m). Increases in Cost of Capital Charge resulting from changes in accounting treatment of the delivery of assets (+£27m). A redefinition of Beneficial Use of Typhoon has resulted in the DPA incurring additional 1 years Cost of Capital Charge on development expenditure (+£222m). Difference in variation figures due to revision of Cost of Capital Charge (£-92m).
Net Variation	***		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	11791

2d. Years of peak procurement expenditure

2006/2007	2008/2009

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
-	68.9 *	232	232

* The UPC is based on the costs for Tranche 1 and 2 aircraft only. Tranche 3 aircraft will be the subject of a separate negotiation and contract with industry.

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	Date of Delivery of first aircraft to the Royal Air Force

3b. Performance against approved in-service date

	Date
Current Forecast ISD	June 2003
Approved ISD at Main Gate	December 1998
Variation (Months)	+54
In-year changes	0

3c. Reasons for variation from approved ISD

Date	**Variation (months)**	**Factor**	**Explanation**
Historic	+32	Technical Factors	Resulting from the application of complex technologies required to enable the equipment to meet the original Staff Requirement (+32 months).
Historic	+22	Procurement Management	Reorientation of the Development phase in response to the changed strategic environment and budgetary pressures of the four nations and delays in signature of the Memoranda of Understanding for the Production and Support phases (+22 months).
Net Variation	+54		

3d. Cost resulting from ISD variation

Type of Cost/Saving	**Cost £m**	**Saving £m**	**Explanation**
Support costs of current equipment	1075	-	Cost of running on Tornado and Jaguar.
Other	-	861	Estimated support costs for Typhoon not incurred.
Total	+214		

3e. Operational impact of ISD variation

Key improvements in capability not realised until revised ISD are:

i) Agility and all altitude performance;
ii) Autonomous detection, identification and multiple engagement of air to air targets;
iii) Human computer interface to reduce operator workload;
iv) Multi role capability;
v) Survivability through superior airframe and equipment performance;
vi) Low mean time between failure.

The 54 month delay has been mitigated to a small extent by compressing the entry into service period, but the net effect is a delay of 4 years.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	Take off Distance	Yes	-	-
02	Landing Distance	-	-	Yes
03	Attributable Failures per 1000 Flying Hours	Yes	-	-
04	Life (Flying Hours)	Yes	-	-
05	Sustained Minimum Turn Radii at Sea Level, Max Reheat	Yes	-	-
06	Maximum speed at sea level	Yes	-	-
07	Maximum speed at 36,000 ft	-	Yes	-
08	Acceleration Time at Sea level from 200 knots to Mach 0.9	Yes	-	-
09	Instantaneous Turn Rate Sea Level, Max Reheat	Yes	-	-
10	Sustained Turn Rate at Mach 0.9 at 5000ft, Max Dry	Yes	-	-
Percentage currently forecast to be met		90%		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
Historic	KUR 07	Technical Factors	Industry flight trials to extend the aircraft performance envelope have identified acoustic vibration within the engine intake which is causing the intake to resonate at very high speeds. This has potential long term fatigue implications which are being investigated by Eurofighter GmbH as part of the main development contract.
Historic	KUR 02	Technical Factors	Refined modelling carried out to support the 1994 reorientation submission indicated that in the most adverse conditions the specified landing distance would not be achieved – this was accepted by the Equipment Approvals Committee.

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

Pre-Development, which commenced with the approval of the feasibility study in 1984, comprised a number of activities. Following early concept studies, and various efforts at establishing a collaborative programme, there were two key Typhoon demonstration activities completed by the UK before development: the Experimental Aircraft Programme (EAP), an airframe programme primarily aimed at proving the feasibility of the Typhoon unstable flight control concepts, and the XG40 engine demonstrator programme at Rolls Royce. The results of these demonstrators and their associated studies, together with the results of similar work within the other Nations were harmonised in a Definition, Refinement and Risk Reduction phase that ran from the end of 1985 when four Nations signed the initial Memorandum of Understanding, until 1988 when the development contract was signed.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	78	0.4%
Approved Cost at Initial Gate	87	0.5%
Variation	-9	

5c. Duration of Assessment Phase

Date of Main Gate Approval	November 1987
Date of Initial Gate Approval	(Legacy Project) Pre SMART
Length of Assessment Phase [months]	-

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	16671	-
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate	-	-	-

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	-	December 1998	-
Envelope within which capability was expected to be available at Initial Gate	-	-	-

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POST MAIN GATE PROJECT SUMMARY SHEET

WATCHKEEPER

Integrated Project Team Responsible:

TACTICAL UNMANNED AIR VEHICLE (TUAV)

Single Point of Accountability for project capability:

Director Equipment Capability (Intelligence, Surveillance, Target Acquisition & Reconnaissance)

Senior Responsible Owner for broader capability:

Assistant Chief of the Air Staff

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

WATCHKEEPER will provide the operational commander with a 24 hour, all weather, intelligence, surveillance, target acquisition and reconnaissance capability supplying accurate, timely and high quality imagery to support decision making. The system will consist of unmanned air vehicles, sensors, data links and ground control stations. Watchkeeper is planned to be delivered through an incremental programme to allow the system to benefit from both existing and developing sensors and air vehicle technology.

In July 2005, following an international competition, Thales (UK) was awarded the WATCHKEEPER Demonstration and Manufacture phase contract as prime contractor. Major project milestones completed to date include the System Design Review in December 2005, the Preliminary Design Review in July 2006 and the Critical Design Review of the air vehicle in December 2006.

Key future events include the System Critical Design Review planned for May 2007, the Automatic Take Off & Landing System (ATOLS) Demonstration in March 2008 and Completion of the Technical Field Trials in December 2009.

1b. Associated projects

Critical to Achievement of ISD		Critical to Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
Bowman BCIP 5	2008	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
Thales Defence Ltd, Weybridge	Demonstration to Manufacture	Firm price	International competition

SECTION 2: PROJECT COSTS

2a. Performance against approved cost.

£m (outturn prices)	Procurement Cost
Current Forecast Cost	901
Approved Cost at Main Gate	920
Variation	-19
In-year changes	-6

2b. Reasons for variation from approved cost

Date	Variation (£m)	Factor	Explanation
March 2007	-5	Accounting Adjustments and Re-definitions	Reduction in Cost of Capital figure due to a revision in accruals included within the forecast cost.
March 2007	-1	Change in Associated Project	Delay in start date of Defence Estates tasks into 2007/08.
Historic	-13	Risk Differential	Difference between the risk allowed for in the most likely (50%) and highest acceptable (70%) estimates at Main Gate.
Net Variation	-19		

2c. Expenditure to date

Expenditure to 31 March 2007 (£m)	154

2d. Years of peak procurement expenditure

2009/2010	2010/2011

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
-	-	-	-

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	One sub-unit trained and equipped to support a Medium Scale of Effort deployment.

3b. Performance against approved in-service date

	Date
Current Forecast ISD	June 2010
Approved ISD at Main Gate	February 2011
Variation (Months)	-8
In-year changes	0

3c. Reasons for variation from approved ISD

Date	Variation (months)	Factor	Explanation
Historic	-8	Risk Differential	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate.
Net Variation	-8		

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
-	-	-	-

3e. Operational impact of ISD variation

-

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

KUR Serial	Key Requirement	Forecast to be Met	At Risk	Not to be Met
01	WATCHKEEPER shall have at least a 95% probability of detecting all 5 of 5 static NATO standard tank targets within an open area of 4 km^2 in no more than 8 minutes.	Yes	-	-
02	In support of unit operations WATCHKEEPER shall have at least a 95% probability of identifying all 5 of 5 static NATO standard tank targets within a 4 km^2 area within 30 minutes of receipt of tasking.	Yes	-	-
03	To concurrently support two Medium Scale operations (one of 6 months duration and one enduring), WATCHKEEPER shall provide imagery and imagery intelligence concurrently to at least 8 HQs comprising a total of at least 10 Tasking Users throughout the battlespaces of 2 disparate operational theatres.	Yes	-	-
04	WATCHKEEPER shall satisfy its tasking, world-wide, day and night, under climatic conditions A2, A3, B1, B2, B3, C0 and C1 as defined in Defence Standard 00-35 and Defence Standard 00-970.	Yes	-	-
05	WATCHKEEPER shall satisfy its tasking, world-wide, day and night, on surface targets located at up to 4000m altitude Above Mean Sea Level International Standard Atmosphere.	Yes	-	-
06	WATCHKEEPER shall be transportable by two C130J Mk 4 to support theatre entry force operations for one Battlefield Misson.	Yes	-	-
07	WATCHKEEPER shall not constrain the tactical mobility of its Users.	Yes	-	-
08	WATCHKEEPER shall satisfy its tasking for 24 hours per day for a period of at least 14 days with an Operational Availability of at least 85%.	Yes	-	-
09	WATCHKEEPER shall enable training for War fighting Operations.	Yes	-	-
10	WATCHKEEPER shall exchange data with BOWMAN and dependent Battlefield Information System Applications to at least NATO interoperability level 3 (seamless sharing of data).	Yes	-	-
11	WATCHKEEPER shall provide the location of static targets to within an absolute targeting error not exceeding 10 m in the horizontal circular error (at 90% confidence levels).	Yes	-	-
Percentage currently forecast to be met		100 %		
In-Year Change		0		

4b. Reasons for variation against approved key requirements

Date	Key Requirement	Factor	Explanation
-	-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

Watchkeeper is a consolidation of the Sender and Spectator projects. Initial Gate approval was received for Sender in November 1999 and approval for a joint Assessment Phase for both projects was given in July 2000.

The acquisition strategy has been based on selecting Unmanned Air Vehicle (UAV) systems to suit a defined capability requirement rather than an air vehicle-centred approach. Through evaluation and system concept demonstration, the Assessment Phase has driven down technical and schedule risks and derived the whole life costs associated with the proposed options. User and System Requirements were identified and revalidated. Trade-off activity was undertaken, taking full account of the impact across all Lines of Development and supported by balance of investment studies.

Alternative acquisition options have been considered. PPP/PFI was not deemed appropriate for the provision of a tactical capability deployed in theatre, due to the potential risks to contractor personnel and the required levels of availability as well as legal implications. Collaboration was explored during the early stages of the Assessment Phase, but it was not possible to align requirements. There is continuing dialogue with and between allied nations on matters of requirement definition, technology, operational experience and acquisition. The need for significant system integration with the emerging Network Enabled Capability requirements led the Defence Procurement Agency and the potential contractors to adopt an incremental approach. This approach also supports the Force Readiness Cycle and provides for a phased uplift of capability at discrete intervals.

Opportunities to enhance Watchkeeper beyond the Full Operating Capability have been considered during the Assessment Phase and will inform future investment decisions.

Following a competitive process, Thales (UK) was announced as preferred bidder in July 2004. The programme completed the Assessment Phase of the acquisition cycle in July 2005, when Main Gate approval was given to proceed to the Demonstration and Manufacture phase.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	65	7%
Approved Cost at Initial Gate	52	6%
Variation	+13	

5c. Duration of Assessment Phase

Date of Main Gate Approval	July 2005
Date of Initial Gate Approval	November 1999
Length of Assessment Phase [months]	68

5d. Cost boundaries at Initial Gate and Main Gate Approvals

£m (outturn prices)	Lowest	Budgeted For	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	881	907	920
Expected envelope of costs to support Demonstration and Manufacture Phase at Initial Gate*	-	-	-

5e. ISD boundaries at Initial Gate and Main Gate Approvals

	Earliest	Budgeted For	Latest Acceptable
Forecast ISD at Main Gate	February 2010	June 2010	February 2011
Envelope within which capability was expected to be available at Initial Gate*	-	-	-

* Initial Gate forecasts are only available for the Sender element of the programme. These have been omitted as any comparison to the current programme could be misleading.

PRE-MAIN GATE PROJECT SUMMARY SHEET

FUTURE AIRCRAFT CARRIER (CVF)

Integrated Project Team Responsible:

FUTURE AIRCRAFT CARRIER (CVF)

Single Point of Accountability for project capability:

Director Equipment Capability (Above Water Effect)

Senior Responsible Owner for broader capability:

Carrier Strike Senior Responsible Owner

SECTION 1: ABOUT THE REQUIREMENT

The requirement for the Future Aircraft Carrier (CVF) was endorsed in the Strategic Defence Review (SDR) which identified a continuing need for rapidly deployable forces with the reach and self-sufficiency to act independently of host-nation support. The SDR concluded that the ability to deploy offensive air power would be central to future force projection operations, with carriers able to operate the largest possible range of aircraft in the widest possible range of roles. The current Invincible Class of carriers was designed for Cold War anti-submarine warfare operations. With helicopters and a limited air-defence capability provided by a relatively small number of embarked Sea Harriers, it was judged that this capability would no longer meet future United Kingdom requirements. It was therefore decided to replace the Invincible Class with two larger and more capable aircraft carriers. CVF's offensive air power will be provided primarily by the Future Joint Combat Aircraft (JCA). The Carrier Aircraft Group (CAG) will also operate the Maritime Airborne Surveillance and Control (MASC) system together with helicopters from all three services in a variety of roles that include anti-submarine/anti-surface warfare, attack and support.

SECTION 2: THE ASSESSMENT PHASE

Note: Actual in-service dates and costs are not set until projects reach the point in time when the main investment decision is made i.e. Main gate approval. Until this point all costs and dates are outline assumptions solely for internal planning purposes.

2a. Description of the Assessment Phase

CVF received Initial Gate approval in December 1998 and Invitations to Tender were issued in January 1999. Following tender evaluation, competitive firm price contracts for the Assessment Phase, each potentially worth some £30m, were awarded to BAE Systems and Thales UK in November 1999. Initially, the Assessment Phase was broken down into two stages. The first involved the examination of several carrier designs, and helped inform the decision in January 2001 to select the United States Joint Strike Fighter (JSF) as the option with best potential to meet the JCA requirement. Stage 1 completed in June 2001, following which proposals from the contractors for Stage 2 were considered, together with an assessment of their views on the level of work needed to adequately de-risk the programme. After careful consideration, the conclusion was reached that the original two-stage approach no longer offered value for money and the Assessment Phase strategy was changed.

The competitive second stage was revised and shortened (completing in November 2002) and enabled the competing contractors to concentrate on refining their designs and taking key trade-off decisions. An innovative Continuous Assessment (CA) process was used throughout to evaluate the contractors' performance which led to the conclusion that an alliance approach involving BAE Systems, Thales UK and the Department represented the best approach to CVF. The innovative Alliance procurement strategy will enable the full exploitation of the resources and strengths of the alliance participants with the shared objective of improving on agreed performance targets and was announced in January 2003. A third stage of assessment was therefore taken forward on this basis to further increase the maturity of the design and determine the alliancing strategy for CVF. Stage 3 completed in March 2004.

In July 2004, the Assessment Phase was extended into Stage 4 to further mature the design and carry out risk reduction work, to ensure that the best technical & procurement solution is achieved. Alliancing principles were agreed with BAE Systems and Thales UK and further developed with the selection in February 2005 of Kellogg, Brown & Root UK Ltd as an additional participant in the Alliance. The timescale for completing the design and risk reduction work was further extended in August 2005 (into Stage 5) although this did not result in any additional cost to the programme. The assessment phase completed end January 2006 at a revised total cost of £299m, following receipt of Cost Certificates from the alliance participants.

Following direction from the Investment Approvals Board (IAB), the project has adopted an incremental approach to Main Gate approval with the Demonstration and Manufacturing (D&M) phases being divided into two sequential Main Gate approval points. The first phase (demonstration), which included expanding the alliance to include Babcock Engineering Services and VT Shipbuilding, was approved by the IAB and Treasury in December 2005. The total cost of the demonstration phase (excluding Indirect Resource Departmental Expenditure Limit, but including non recoverable VAT) has been approved at £297m (not to exceed) and £254m (at 50% confidence). Expenditure to 31 March 2007 on the demonstration phase is £72m. The final main gate submission (which will include the costs of the demonstration phase) seeking approval to proceed with the manufacturing phase of the project is planned for mid 2007.

In March 2006, the UK agreed a Memorandum Of Understanding that provides for the supply to France of a common baseline design data pack to enable French industry to bid for the design, manufacture and support of one CVF (France). France has paid an initial entry fee and contributed to the costs of the UK demonstration phase.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase Cost
Forecast Cost	299
Approved Cost at Initial Gate	118
Variation	+181

2c. Explanation of the need and boundaries of current internal planning assumptions for introduction of the capability

	Earliest	Latest
Envelope within which capability will be available	***	***
The CVF is a key enabling component of carrier strike, capable of delivering the full level of offensive air effort, at medium scale, from the sea. The two CVFs will replace the current in-service Aircraft Carriers (CVS), HMSs Ark Royal and Illustrious, which have planned Out of Service Dates (OSDs) of 2012 and 2015 respectively. The decision to divide demonstration and manufacture into 2 sequential main approvals was taken to ensure that there is greater certainty on overall time and cost prior to committing to manufacture and to allow for coherency with the Defence Industrial Strategy. The IAB and Treasury approved the demonstration phase of the project in December 2005, and Main Gate approval for manufacturing is planned for mid 2007.		

2d. Boundaries of current internal cost assumptions for Demonstration and Manufacture Phase

	Lowest	Highest
Envelope of costs to support Demonstration and Manufacture Phase	***	***

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PRE-MAIN GATE PROJECT SUMMARY SHEET

UKCEC FRIGATE AND DESTROYER PROGRAMME

Picture not available

Integrated Project Team Responsible:

JOINT SENSOR AND ENGAGEMENT NETWORKS (JSENS)

Single Point of Accountability for project capability:

Director Equipment Capability (Intelligence, Surveillance, Target Acquisition & Reconnaissance)

Senior Responsible Owner for broader capability:

Capability Manager (Information Systems)

SECTION 1: ABOUT THE REQUIREMENT

The Cooperative Engagement Capability (CEC) is a US Naval system that is fitted to an increasing number of US Naval assets. CEC does not replace any single system; rather it optimises war-fighting capabilities inherent in existing and future combat systems.
UKCEC is a Network Enabled Capability (NEC) project which will deliver improved situational awareness, interoperability and integration. It will fill the capability gap identified in the Commander in Chief Fleet's (CINCFLEET)'s Military Capability (MILCAP) reports regarding the ability to detect, monitor, and counter Air Warfare threats. It will also reduce a gap in interoperability with the United States.
UKCEC enhances the ability of fitted platforms to work together in detection, tracking and engagement of air targets. This capability represents a major advance in both air and missile defence.

SECTION 2: THE ASSESSMENT PHASE

Note: Actual in-service dates and costs are not set until projects reach the point in time when the main investment decision is made i.e. Main gate approval. Until this point all costs and dates are outline assumptions solely for internal planning purposes.

2a. Description of the Assessment Phase

Operational Analysis conducted during the concept phase assessed seven options; CEC was identified as the only solution capable of meeting Key User Requirements.

The objective of the Assessment Phase is to establish the most cost effective solution to the requirement for a CEC capability for Type 23 Frigates (T23) and Type 45 Destroyers (T45). CEC is a proven US developed programme which the UK is considering purchasing via the Foreign Military

Sales (FMS) process. The UK, with US assistance, is developing and testing the platform architecture and support and integration aspects, to reduce risk prior to Main Gate.

Assessment Phase 1 (AP1). Approval for UKCEC AP1 was received in May 2000 and, following a competition, contracts were placed with Lockheed Martin UK Integrated Systems (LM) and Raytheon UK, with down-selection to LM for Assessment Phase 2. This was for the T23 only. Also during this phase a study contract was undertaken by BAE Systems (BAES) to investigate CEC fit on the T45.

Assessment Phase 2 (AP2). In May 2003 approval was received to accelerate the risk reduction work on T45 by two years, at no additional procurement cost. In July 2003, this work was placed on contract by means of an amendment to the T45 prime contract with BAES, the Prime Contracting Office for the T45. Costed proposals for the Demonstration and Manufacture Phase for both T23 and T45 were delivered by LM and BAES respectively in 2005. However, an Option was taken as part of the Equipment Plan (EP) 2005 planning round extending the Assessment Phase by 5 years, enabling further de-risking of the project.

Assessment Phase 2b. De-risking study contracts have been placed with LM and BAES to investigate the options for integrating CEC into the two platforms and their existing/planned systems. A Review Note will request endorsement of the de-risked programme and seek approval for the release of additional funds from existing EP provision to support the remaining Assessment Phase. Main Gate approval will be sought once the work being carried out in the Assessment Phase has reached maturity. Further Operational Analysis work and a review of technology assumptions since the Initial Gate approval in 2000, has also been commissioned.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase Cost
Forecast Cost	55
Approved Cost at Initial Gate	25
Variation	+30

2c. Explanation of the need and boundaries of current internal planning assumptions for introduction of the capability

	Earliest	Latest
Envelope within which capability will be available	***	***
The capability will meet the need to counter Air Warfare threats by enhancing the ability to detect, track, and engage air targets, and to contribute to the Single Integrated Tactical Picture. The time envelope for provision of the capability is based on cohesion with the US programme, forecast production rates and platform availability.		

2d. Boundaries of current internal cost assumptions for Demonstration and Manufacture Phase

	Lowest	Highest
Envelope of costs to support Demonstration and Manufacture Phase	***	***
The figure provided is a most likely one at this stage of the programme and may reduce as the engineering solution and installation architecture matures.		

PRE-MAIN GATE PROJECT SUMMARY SHEET

FUTURE INTEGRATED SOLDIER TECHNOLOGY (FIST)

Integrated Project Team Responsible:

DISMOUNTED CLOSE COMBAT

Single Point of Accountability for project capability:

Director Equipment Capability (Ground Manoeuvre)

SECTION 1: ABOUT THE REQUIREMENT

The Future Integrated Soldier Technology (FIST) programme aims to integrate both current and emerging key technologies that British dismounted soldiers require for them to maintain their position in the forefront of capability. The programme will ensure the future soldier has equipment that optimises effectiveness, reduces physical and psychological load, and minimises the effects of combat stress and the risks of human error.

Historically, soldiers have been equipped in a piecemeal manner. FIST will consider the dismounted soldier as a system, and the eight-man section as a virtual platform. This 'system of systems' approach, demonstrated successfully during the Concept Phase, will fundamentally improve the capabilities of troops engaged in dismounted close combat. FIST will deliver an integrated suite of equipment encompassing the NATO domains of C4I (Command, Control, Communications, Computers and Information), lethality, mobility, survivability and sustainability.

SECTION 2: THE ASSESSMENT PHASE

Note: Actual in-service dates and costs are not set until projects reach the point in time when the main investment decision is made i.e Main Gate approval. Until this point all costs and dates are outline assumptions solely for internal planning purposes.

2a. Description of the Assessment Phase

Initial Gate approval was achieved in August 2001. Four companies submitted tenders for the Assessment Phase (AP) prime contract, and a two-stage selection process was adopted (four to two and two to one). Two companies were de-selected in August 2002, leaving BAE Systems and Thales Defence Ltd to take part in a competitive planning phase between August 2002 and January 2003. The selection of Thales Defence Ltd as the FIST AP prime contractor was announced on 12 March 2003.

The AP prime contract was expected to take 32 months, but commitment of troops to operations overseas delayed critical trials planned for Summer 2004, leading to an extension of three months and

a cost increase of £2.5m. Problems were encountered on a subsequent major trial held in Autumn 2005, as some systems proved insufficiently robust to allow adequate data to be collected. Consequently, more time is needed to mature our understanding of the requirement and of the final technical solution. The AP has therefore been extended and a further contract placed with Thales to cover the period up to 31 July 2007. The estimate of the cost of the AP has been increased to £36m. In view of the insufficient technological maturity of some parts of the FIST equipment that was trialled, it is now our intention to adopt an incremental acquisition strategy based on a series of Main Gate approvals. This will enable elements of FIST capability to enter service as and when they are ready.

Successful Combined Operational Effectiveness and Investment Appraisal trials have taken place in the last year, and have produced the required data to inform the FIST Main Gate Business Case.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase Cost
Forecast Cost	36
Approved Cost at Initial Gate	26
Variation	+10

2c. Explanation of the need and boundaries of current internal planning assumptions for introduction of the capability

	Earliest	Latest
Envelope within which capability will be available	***	***

The FIST project is intended to provide dismounted soldiers with an integrated suite of equipment that optimises their effectiveness on the battlefield. Soldiers have hitherto been equipped in a piecemeal manner, but FIST will regard the individual soldier as a system.

A series of Main Gate Business Cases will be submitted for approval as elements of the work currently being carried out in the AP reach maturity. The Main Gate Business Cases will seek approval for demonstration and production of a range of equipment to deliver the required capability.

2d. Boundaries of current internal cost assumptions for Demonstration and Manufacture Phase

	Lowest	Highest
Envelope of costs to support Demonstration and Manufacture Phase	***	***

PRE-MAIN GATE PROJECT SUMMARY SHEET

FUTURE RAPID EFFECT SYSTEM (FRES)

Picture not available

Integrated Project Team Responsible:

FUTURE RAPID EFFECT SYSTEM

Single Point of Accountability for project capability:

Director Equipment Capability (Ground Manoeuvre)

Senior Responsible Owner for broader capability:

Capability Manager (Battlespace Manoeuvre)

SECTION 1: ABOUT THE REQUIREMENT

The MoD has outlined a two track approach to meeting its armoured fighting vehicle requirement. In the short term it has an urgent need to upgrade the current fleet. In the longer term it needs to equip United Kingdom Armed Forces with a medium weight capability that would be able to project power world-wide rapidly. FRES is the response to this longer term requirement.

FRES will deliver a new, medium weight armoured vehicle fleet with higher levels of deployability and survivability than the current fleet, with the potential to grow its capability as new technology becomes available. The current planning assumption is to deliver over 3,000 vehicles. The original requirement was for 1,757 vehicles but this was increased in 2004 under an equipment programme option when the Total Fleet Requirement had been established

FRES will be part of a balanced force consisting of heavy, medium and light brigades giving the ability to deploy forces rapidly with higher levels of firepower, protection and mobility than Light Forces can achieve, but with deployability and agility that cannot be achieved by Heavy Forces. The current threat on operations, particularly from rocket propelled grenades, heavy machine guns and mines/improvised explosive devices, has reinforced the need for adequately protected armoured vehicles.

FRES will replace the Army's obsolescent Saxon, FV 430 and Combat Vehicle Reconnaissance (Tracked) vehicles

SECTION 2: THE ASSESSMENT PHASE

Note: Actual in-service dates and costs are not set until projects reach the point in time when the main investment decision is made i.e Main Gate approval. Until this point all costs and dates are outline assumptions solely for internal planning purposes.

2a. Description of the Assessment Phase

The FRES fleet will encompass 16 roles. The total capability is expected to comprise four families of vehicles; Utility, Reconnaissance, Fires and Manoeuvre Support. An incremental approach to capability delivery is envisaged with an Initial Operating Capability comprising the first elements of the Utility fleet followed by a phased approach to delivering the full capability in planned increments thereafter. Each family of vehicles will have its own Assessment, Demonstration and Manufacture Phase. The initial Assessment Phase was approved in April 2004 and has focused primarily on those roles that will make up the Initial Operating Capability. Following a competition, Atkins, an independent Systems House, was appointed in November 2004. Led by the FRES IPT, the Systems House has been integrated into a team which also includes Defence Science Technology Laboratories and the Equipment Capability Customer. Under the strategic direction of the MoD, the Systems House provides objective analysis of the options for meeting the requirement, manages the programme of technical risk reduction work and has brought an industrial perspective to the development of the acquisition strategy for future phases.

A number of options for meeting the Utility Vehicle requirement have been considered, including solutions currently available off the shelf, existing development programmes and new start options. Extensive analysis has demonstrated that vehicles currently available off the shelf (OTS) cannot carry the weight necessary to meet the FRES protection requirements and, furthermore, do not have the growth potential to be developed to meet it in the future. New start options are too long and too costly and therefore both OTS and new start options have been discounted. An assessment of platforms currently in development indicates that they do have the potential to operate at the weight necessary to provide adequate protection. The potential of current development vehicles to meet the FRES requirement will be further examined in detail in 2007.

The Acquisition Strategy has been approved. The approved approach is to establish an alliance led by the Department, who will be supported by a strong and independent industrial player acting in the role of System of Systems Integrator (SOSI). The strategy includes a strong competitive element with the SOSI, the vehicle design and the vehicle integrator to be selected by competition.

The original scope of the Initial Assessment Phase has been expanded to include a detailed assessment of candidate platforms against the requirement and parallel work to evaluate and select a SOSI. Based on current plans we shall select the platform or platforms to be taken forward into the Demonstration Phase by November 2007. A two stage approach to the main investment decision is envisaged. Stage 1 will be prior to the launch of the Demonstration Phase with Stage 2 releasing funding for the Manufacture Phase. Future Assessment and Demonstration Phases will address the requirements of the other vehicle families.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase Cost
Forecast Cost	618*
Approved Cost at Initial Gate	113†
Variation	+505

* Includes the costs of the Assessment Phase for the Initial Operating Capability roles and also the Assessment Phase for the Specialist roles.

† Specifically only included approval for the initial Assessment Phase for the Initial Operating Capability roles.

2c. Explanation of the need and boundaries of current internal planning assumptions for introduction of capability

	Earliest	Latest
Envelope within which capability will be available	***	***
FRES will deliver a new, medium weight armoured vehicle fleet with higher levels of deployability and survivability than the current fleet, with the potential to grow its capability as new technology becomes available. The detailed analysis of the candidate current development platforms will enable the performance, cost, schedule and risks of these candidate solutions to be fully understood and will inform the main investment decision. The In-Service Date (ISD) covers only the Initial Operating Capability.		

2d. Boundaries of future Demonstration and Manufacture phase costs

	Lowest	Highest
Envelope of costs to support Demonstration and Manufacture Phase	***	***

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PRE-MAIN GATE PROJECT SUMMARY SHEET

FUTURE STRATEGIC TANKER AIRCRAFT (FSTA)

Integrated Project Team Responsible:

FUTURE STRATEGIC TANKER AIRCRAFT (FSTA)

Single Point of Accountability for project capability:

Director Equipment Capability (Expeditionary Logistics & Support)

Senior Responsible Owner for broader capability:

Capability Manager (Information Superiority)

SECTION 1: ABOUT THE REQUIREMENT

The Future Strategic Tanker Aircraft (FSTA) is planned to replace the Air to Air Refuelling (AAR) and some elements of Air Transport (AT) capability currently provided by the Royal Air Force's fleet of VC10 and TriStar aircraft. AAR is a key military capability that provides force multiplication and operational range enhancement for front line aircraft across a range of Defence roles and military tasks.

SECTION 2: THE ASSESSMENT PHASE

Note: Actual in-service dates and costs are not set until projects reach the point in time when the main investment decision is made i.e Main Gate approval. Until this point all costs and dates are outline assumptions solely for internal planning purposes.

2a. Description of the Assessment Phase

FSTA was nominated as a potential Private Finance Initiative (PFI) project in 1997. An Assessment Phase, to confirm whether PFI would offer best value for money, was launched following Initial Gate approval in December 2000.

The Assessment Phase is intended to confirm industry's ability to meet the service requirement, programme timescales and costs. It is also required to determine whether the inclusion of Air Transport capability in the contract will represent value for money and clarify the manning and personnel implications.

Ministers announced on 06 June 2007 that it had been decided to proceed towards financial and contractual close on the FSTA PFI. The PFI funding process is now underway.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase Cost
Forecast Cost	37
Approved Cost at Initial Gate	13
Variation	+24

2c. Explanation of the need and boundaries of current internal planning assumptions for introduction of the capability

	Earliest	Latest
Envelope within which capability will be available	***	***
After a competition and several years of complex PFI negotiations, AirTanker Ltd, a consortium comprising EADS, Rolls Royce, Cobham, and Thales were judged to offer the best prospective PFI solution. VT Group joined the consortium shortly after. Following subsequent resolution of key commercial terms, Secretary of State announced on 28 February 2005 that AirTanker Ltd had been selected as Preferred Bidder for FSTA. A final decision on the PFI deal for the FSTA programme can be made only when negotiations are complete, the detailed contract is agreed, and the risks to the programme are fully understood. The MoD, in consultation with the rest of Government, hopes to complete its assessment soon.		

2d. Boundaries of current internal cost assumptions for Demonstration and Manufacture Phase

	Lowest	Highest
Envelope of costs to support Demonstration and Manufacture Phase	***	***

PRE-MAIN GATE PROJECT SUMMARY SHEET

INDIRECT FIRE PRECISION ATTACK (IFPA)

Picture not available

Integrated Project Team Responsible:

ARTILLERY SYSTEMS

Single Point of Accountability for project capability:

Director Equipment Capability (Deep Target Attack)

SECTION 1: ABOUT THE REQUIREMENT

Indirect Fire Precision Attack (IFPA) will provide a suite of munitions for indirect precision attack of static, mobile, and manoeuvring targets, by incremental acquisition, extending to ranges in excess of 150 kilometres.

The capability required under IFPA will be delivered through a structured programme of Assessment, Demonstration and Manufacture phases. In light of the incremental nature of the programme, a revised approach to the overall IFPA strategy has been agreed with approval for a continuing Assessment Phase leading to the procurement of individual components via a series of Main Gate Business Cases.

The Assessment Phase is indicating that the IFPA capability is expected to be achieved by a mixture of guided rockets, enhanced artillery shells and Loitering Munitions, using a variety of different payloads (Loitering Munitions are unmanned airborne vehicles with a warhead, designed to fly in a holding pattern after launching until deployed, with a man-in-the-loop controller, to a target). IFPA munitions will be used by the Multiple Launch Rocket System (MLRS), the AS90 self-propelled howitzer, the future Lightweight Mobile Artillery Weapon System (LIMAWS) Rocket Launcher and in the case of Loitering Munitions possibly as a stand-alone platform. The mix of munitions procured under the programme will have a range of In-Service Dates, with the first being 155mm Ballistic Sensor Fused Munition. This multi-solution approach will be managed through an incrementally based procurement strategy.

SECTION 2: THE ASSESSMENT PHASE

Note: Actual in-service dates and costs are not set until projects reach the point in time when the main investment decision is made i.e Main gate approval. Until this point all costs and dates are outline assumptions solely for internal planning purposes.

2a. Description of the Assessment Phase

The Initial Gate Business Case for IFPA was approved in May 2001. Following competition using a Capability Based Questionnaire, an Assessment Phase contract was awarded in May 2002 to a consortium of companies led by BAE Systems Future Systems. The Assessment Phase was designed to provide, and iteratively update, a 'Route Map' to achieving the full IFPA capability with recommendations about the type, quantities and mix of munitions. In line with the approved IFPA strategy for an incremental programme, a series of Assessment Phases will be conducted, each being approved by a separate Review Note. A contract for the second Assessment Phase was placed with the BAE Systems Future Systems led consortium in January 2007, which included the Loitering Munition Capability Demonstration (LMCD). Invitations to Tender for a 155mm Ballistic Sensor Fused Munition Demonstration and Manufacture phase contract were issued in July 2005. Contract award is expected in Summer 2007. In light of the incremental procurement strategy, procurement of subsequent components will be approved via a series of Main Gate Business Cases.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase Cost
Forecast Cost	67*
Approved Cost at Initial Gate	24†
Variation	+43

2c. Explanation of the need and boundaries of current internal planning assumptions for introduction of the capability

	Earliest	Latest
Envelope within which capability will be available	***	***
This project will provide the MoD with an indirect fire, precision attack capability, to be acquired on an incremental basis. The above dates relate to the current planning assumptions for the first increment of the IFPA programme, that is, the introduction into service of the 155mm Ballistic Sensor Fused Munition.		

2d. Boundaries of current internal cost assumptions for Demonstration and Manufacture Phase

	Lowest	Highest
Envelope of costs to support Demonstration and Manufacture Phase	***	***

* Includes costs for Assessment Phase 2 and Loitering Munition Capability Demonstration of £49m which was approved in June 2006 review note.

† Covers approvals of Assessment Phase 1. Due to incremental nature of this programme this approval does not include other assessment phase activities.

PRE-MAIN GATE PROJECT SUMMARY SHEET

MARITIME, AIRBORNE, SURVEILLANCE, AND CONTROL (MASC)

Integrated Project Team Responsible:

FUTURE AIRCRAFT CARRIER (CVF)

Single Point of Accountability for project capability:

Director Equipment Capability (Intelligence Surveillance Target Acquisition & Reconnaissance)

Senior Responsible Owner for broader capability:

Carrier Strike Senior Responsible Owner.

SECTION 1: ABOUT THE REQUIREMENT

The provision of an airborne surveillance and battle management capability, as currently achieved by the Sea King Mk7 Airborne Surveillance and Control variant (SKASaC), to support Carrier Strike. Surveillance will be conducted of air and surface targets which, with command of assigned assets, will enable protection of the Joint Sea Base and support to Carrier Strike offensive air power as well as Littoral Manoeuvre operations.

The Initial Gate submitted in 2005 sought approval for Stage 1 of the Assessment Phase only. A Review Note planned for mid 2007 will outline the forward programme and identify the full cost of the Assessment Phase.

SECTION 2: THE ASSESSMENT PHASE

Note: Actual in-service dates and costs are not set until projects reach the point in time when the main investment decision is made i.e. Main gate approval. Until this point all costs and dates are outline assumptions solely for internal planning purposes.

2a. Description of the Assessment Phase

Assessment Phase Stage 1 is aimed at studying a focussed set of solutions having deselected a number at Initial Gate. The outcome of this will be threefold. Firstly, a comprehensive understanding of the technical risk issues associated with each solution and how these impact on the ability to deliver the capability. Secondly, an understanding of the relative costs and effectiveness of the solutions in meeting the capability. Finally, Stage 1 will deliver a programme for the remainder of the Assessment Phase that articulates what level of funding is required and what level of risk reduction is necessary to reach Main Gate.

Stage 1 was approved at an expected cost of £10m and a Not To Exceed cost of £13m. The risks associated with the Not To Exceed costs have not occurred resulting in a variation of -£3m. A further variation of -£2m is due to an innovative contracting structure that has allowed studies to be conducted more cost effectively. The remaining variation of -£1m is as a result of revaluing Assessment Phase 1.

As part of the Assessment Phase Stage 1 activity, the project team are considering the ability to deliver this capability within the wider context of MoD's investment in surveillance platforms and infrastructure as well as the opportunities for cost effective delivery through an incremental approach to acquisition. This has the potential to change the nature of the programme from the planning assumption which is based on the transfer of the existing Sea King Mk7 mission system to a new build rotary wing airframe.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase Cost
Forecast Cost	7
Approved Cost at Initial Gate	13
Variation	-6

2c. Explanation of the need and boundaries of current internal planning assumptions for introduction of the capability

	Earliest	Latest
Envelope within which capability will be available	***	***
The MASC initial operating capability is to provide a minimum deployable force capable of providing 24 hour surveillance cover to protect the Future Aircraft Carrier (CVF) Task group. The date entries are nominal, pending definition of the final In-service date at the point of commitment to the Development and Manufacture stage.		

2d. Boundaries of current internal cost assumptions for Demonstration and Manufacture Phase

	Lowest	Highest
Envelope of costs to support Demonstration and Manufacture Phase	***	***

PRE-MAIN GATE PROJECT SUMMARY SHEET

MILITARY AFLOAT REACH AND SUSTAINABILITY (MARS)

Picture not available

Integrated Project Team Responsible:

MILITARY AFLOAT REACH AND SUSTAINABILITY

Single Point of Accountability for project capability:

Director Equipment Capability (Expeditionary Logistics & Support)

SECTION 1: ABOUT THE REQUIREMENT

MARS will investigate a wide range of solutions to provide the logistic support requirements of the future Royal Navy and sea-based support to deployed forces. MARS vessels will play a significant part in providing sea-based support to amphibious, land and air forces in the littoral where Host Nation Support is absent or limited. As the MARS vessels come into service, they will replace the current Royal Fleet Auxiliary (RFA) vessels as they are gradually withdrawn from service. MARS vessels will provide three capabilities:

- Bulk Consumables (BC) – the provision of fuel, oils, lubricants, ammunition, food, water and air stores to embarked forces.
- Joint Sea Based Logistics (JSBL) - the provision of logistic support from afloat to Joint Forces ashore.
- Forward Aviation Support (FAS) - the provision of support to maritime rotary-wing operations and support to amphibious rotorcraft operations, as well as the provision of operational maintenance support for deployed helicopters.

MARS plans to deliver a number of dedicated tankers followed by a number of other vessels. The actual number and type of vessels required will be determined during the Assessment Phase. These ships will be double hulled to comply with environmental requirements.

SECTION 2: THE ASSESSMENT PHASE

Note: Actual in-service dates and costs are not set until projects reach the point in time when the main investment decision is made i.e Main gate approval. Until this point all costs and dates are outline assumptions solely for internal planning purposes.

2a. Description of the Assessment Phase

The MARS project received formal approval to enter its Assessment Phase in July 2005.

The initial planned contractual route for meeting the MARS requirement was the creation of an

alliance, consisting of the MoD and a number of industrial partners. However, as a result of ongoing progress made on the emerging Maritime Industrial Strategy, and taking account of changes to the maritime industrial landscape, the MARS procurement strategy is currently under review. Nevertheless, the Defence Industrial Strategy principle, that there is no absolute requirement to build all Royal Fleet Auxiliary vessels onshore, remains extant. For the less complex elements of MARS, such as the tankers, a range of procurement options are envisaged, up to and including a fully competitive (and international) approach to their procurement.

All data following is based on the current procurement strategy.

The MARS Assessment Phase will cover generic assessment and design activity for the whole programme and the initial design for the first class of ships.

The MARS ships are expected to be procured in distinct phases, with class 1 and each subsequent class being approved by separate submissions to the Department's Investment Approvals Board. The approved budget for the MARS Assessment Phase is £44m and the current forecast for the Assessment Phase is ***.

Due to the planned phased nature of the project, further design on subsequent classes will take place after the main investment decision, and an early estimate for this was ***. However, due to the re-profiling of the MARS programme, this has now reduced to ***. This brings the total expected cost of Assessment work and later design for future classes to ***, subject to more detailed investigations into the nature of future classes and the level of design to be undertaken.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase Cost
Forecast Cost	***
Approved Cost at Initial Gate	44
Variation	***

2c. Explanation of the need and boundaries of current internal planning assumptions for introduction of the capability

	Earliest	Latest
Envelope within which capability will be available	***	***
The MARS programme will replace a large number of existing Royal Fleet Auxiliary vessels. The capability is essential for the effective deployment of the Royal Navy and replaces existing ships that will be otherwise operating outwith Maritime Pollution (Marpol) regulations at ages well beyond their design life.		

2d. Boundaries of current internal cost assumptions for Demonstration and Manufacture Phase

	Lowest	Highest
Envelope of costs to support Demonstration and Manufacture Phase	***	***

PRE-MAIN GATE PROJECT SUMMARY SHEET

SEARCH AND RESCUE - HELICOPTER (SAR-H)

Integrated Project Team Responsible:

Search and Rescue - Helicopter

Single Point of Accountability for project capability:

Director Equipment Capability (Air and Littoral Manoeuvre)

Senior Responsible Owner for broader capability:

Capability Manager (Battlespace Manoeuvre)

SECTION 1: ABOUT THE REQUIREMENT

Search and Rescue - Helicopter (SAR-H) is a joint Ministry of Defence (MoD) and Maritime and Coastguard Agency ((MCA) - an Agency of the Department for Transport (DfT)) programme. It seeks to replace the current Search and Rescue capability, provided around the UK (and potentially the Falkland Islands) by the Royal Air Force and the Royal Navy, using Sea King helicopters, and through the MCA service contract.

It is planned to introduce the new service progressively in the next decade, when the MCA contract expires and the Sea Kings come to the end of their planned lives. Following MoD and DfT Ministerial approvals to enter Assessment Phase 2, a competition under the Private Finance Initiative (PFI), was launched in May 2006 following European Union procurement regulations.

SECTION 2: THE ASSESSMENT PHASE

Note: Actual in service dates and costs are not set until projects reach the point in time when the main investment decision is made i.e Main gate approval. Until this point all costs and dates are outline assumptions solely for internal planning purposes.

2a. Description of the Assessment Phase

The SAR-H Assessment Phase was approved in 2 Phases – AP1 and AP2. AP1 considered the range of procurement options as outlined in the SAR-H Initial Gate approval, resulting in a recommendation for a joint MoD/MCA competitive PFI procurement strategy.

MoD Ministerial approval for AP2 to implement the joint MoD/MCA competitive PFI procurement strategy was gained via the Future Rotorcraft Capability Initial Gate Business Case and followed by DfT Minister approval of a parallel Business Case.

A joint Ministerial announcement of the PFI Procurement Strategy was made in May 2006 and the competition was launched through the Official Journal of the European Union. Four consortia were down selected following assessment of their Pre Qualification Questionnaires in November 2006: AgustaWestland; CHC Scotia Ltd/Thales UK Ltd; AIRKNIGHTTEAM (Lockheed Martin UK Ltd/VT Group Ltd/British International Helicopters Ltd); and UK Air Rescue (Bristow Helicopters Ltd/FBH Ltd/Serco Ltd). The Competitive Dialogue with industry formally commenced in February 2007. It is anticipated that AP2 will conclude with the recommendation of a preferred bidder.

The combined MoD/MCA forecast cost of the Assessment Phase is £17m and the total cost of the project is estimated to be between £3bn and £5bn ((Figures at tables 2b and 2d relate to MoD costs only).

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase Cost
Forecast Cost	12*
Approved Cost at Initial Gate	1†
Variation	+11

2c. Explanation of the need and boundaries of current internal planning assumptions for introduction of the capability

	Earliest	Latest
Envelope within which capability will be available	***	***
Represents the planned commencement of the service at the first MoD location		

2d. Boundaries of current internal cost assumptions for Demonstration and Manufacture Phase

	Lowest	Highest
Envelope of costs to support Demonstration and Manufacture Phase	***	***
Represents the MoD Equipment Plan contribution to the PFI unitary charge		

* Represents total forecast cost for Assessment Phase 1 and Assessment Phase 2. AP1 approval £1.3m, AP1 actual spend £0.4m. AP2 Approval £9.9m, forecast spend £11.6m.

† Approval for Assessment Phase 1 only.

PRE-MAIN GATE PROJECT SUMMARY SHEET

UNITED KINGDOM MILITARY FLYING TRAINING SYSTEM (UKMFTS) - HOLISTIC

Integrated Project Team Responsible:

UNITED KINGDOM MILITARY FLYING TRAINING SYSTEM

Single Point of Accountability for project capability:

Director Equipment Capability (Theatre Airspace)

Senior Responsible Owner for broader capability:

Capability Manager (Precision Attack)

SECTION 1: ABOUT THE REQUIREMENT

UKMFTS will deliver a coherent, flexible and integrated flying training capability catering for the needs of the Royal Navy, the Royal Air Force and the Army Air Corps. The flying training system takes aircrew from initial training through elementary, basic and advanced flying training phases to their arrival at their designated operational aircraft. The current system is at risk of being unable to deliver the required quantity and quality of aircrew to meet the input standard for the Operational Conversion Units. The existing training platforms are approaching the end of their useful lives and include outdated systems that are unable to prepare trainees for current and future front line aircraft. The current system is based on a number of separate contractual arrangements for the provision of equipment and support. Consequently the system is piecemeal, difficult to manage and inefficient. It also introduces significant delays due to lengthy training programmes and gaps between courses.

The focus for UKMFTS is to achieve a holistic system based on capability and service delivery; it is not solely about the provision of aircraft platforms. It also offers an opportunity to modernise the flying training processes for all three Services, realise efficiencies and, since training is currently spread across several organisations, take advantage of potential economies of scale.

SECTION 2: THE ASSESSMENT PHASE

Note: Actual in service dates and costs are not set until projects reach the point in time when the main investment decision is made i.e. Main Gate approval. Until this point all costs and dates are outline assumptions solely for internal planning purposes.

2a. Description of the Assessment Phase

Four possible procurement options were identified at Initial Gate. The Do-nothing option was discounted. The Do Minimum option would not deliver the required quality and quantity of students in the correct timescales. The remaining options, PPP/PFI and Smart Conventional, were tested in a Convergence Phase which concluded that the adoption of a PPP Contractual Partnering model would best harness the collective skills of MoD and industry by utilising a mix of PFI and conventional procurement to deliver a coherent and flexible system of systems.

This option envisaged the appointment of a Training System Partner (TSP) to work with the MoD over the life of the project to deliver incrementally the total aircrew training requirement. The strategy was approved by Investment Approvals Board (IAB) in February 2005. An Invitation To Negotiate was issued to three consortia in March 2005; the bids were received in August 2005. The Main Gate Business Case (Stage 1) was approved by IAB on 9 November 2006, and Ascent was announced as Preferred Bidder on 30 November 2006. Final contractual negotiations are underway. Main Gate (Stage 2) approval will be sought when the negotiations are concluded and the Business Case is sufficiently mature.

Additional assessment work will be required post-Main Gate for the different training platforms that will be acquired incrementally. These increments will be subject to further approvals.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase Cost
Forecast Cost	30
Approved Cost at Initial Gate	39
Variation	-9

2c. Explanation of the need and boundaries of current internal planning assumptions for introduction of the capability

	Earliest	Latest
Envelope within which capability will be available	***	***
This project will provide the MoD with a coherent, tri-service training capability, to be acquired incrementally, replacing the current disjointed contractual arrangements.		

2d. Boundaries of current internal cost assumptions for Demonstration and Manufacture Phase

	Lowest	Highest
Envelope of costs to support Demonstration and Manufacture Phase	***	***