NATIONAL AUDIT OFFICE

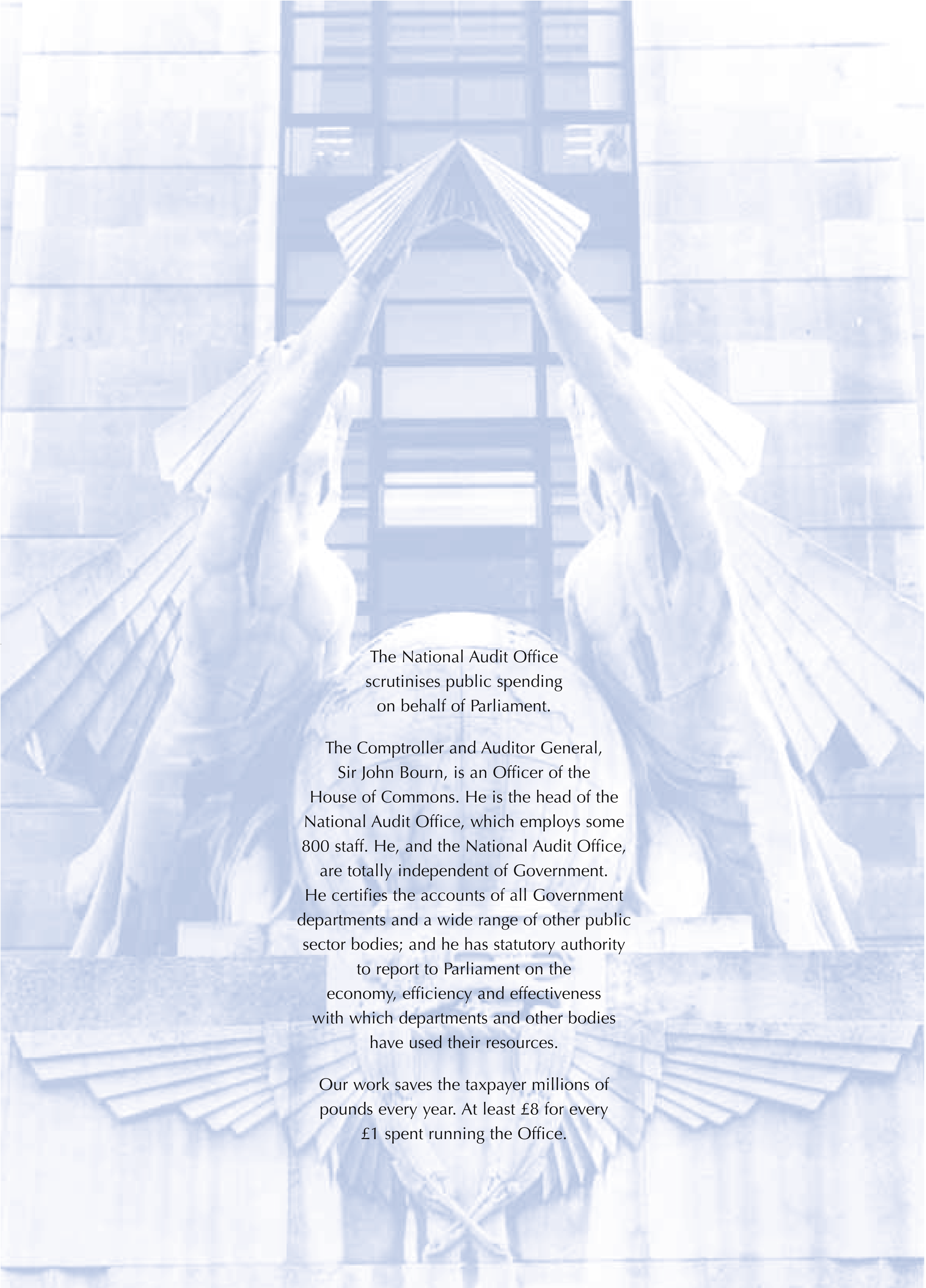
Ministry of Defence

Major Projects Report 2004

Project Summary Sheets

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL

HC 1159-II Session 2003-2004: 10 November 2004



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REPORT BY THE COMPTROLLER AND AUDITOR GENERAL
HC 1159-II Session 2003-2004: 10 November 2004

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John Bourn
Comptroller and Auditor General

National Audit Office
8 November 2004

The National Audit Office study team consisted of:

Karen Jackson, Karl Hui, Teik Khow, Matt Ray, Liz Reeve, Rebecca Sheeran, Chris Steven and Anna Woodcock under the direction of Tim Banfield

This report can be found on the National Audit Office web site at www.nao.org.uk

For further information about the National Audit Office please contact:

National Audit Office
Press Office
157-197 Buckingham Palace Road
Victoria
London
SW1W 9SP

Tel: 020 7798 7400

Email: enquiries@nao.gsi.gov.uk

MAJOR PROJECTS REPORT 2004

POST-MAIN GATE PROJECTS

PRE-MAIN GATE PROJECTS

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POST MAIN GATE PROJECT SUMMARY SHEET

A400M

Integrated Project Team Responsible:
A400M

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Future Transport Aircraft (FTA) requirement seeks to provide tactical and strategic mobility to all three Services. The capabilities required of FTA include: the ability to operate from well established airfields and semi-prepared rough landing areas in extreme climates and all weather by day and night; to carry a variety of vehicles and other equipment, freight, and troops over extended ranges; to be capable of air dropping paratroops and equipment; and to be capable of being unloaded with the minimum of ground handling equipment. Furthermore, 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 requirement would be met, in the latter part of this decade, by FTA.

The A400M was selected to meet this requirement for an air lift capability to replace the remaining Hercules C-130K fleet. Ministers announced their decision on 16 May 2000 to make a commitment to procure 25 A400M aircraft in the initial production tranche. This is a collaborative programme now involving seven European nations (Germany, France, Turkey, Spain, Belgium, Luxembourg and United Kingdom), following the departure of Portugal in January 2003. Inter-Governmental Arrangements (IGAs) and contract were signed on 18 December 2001 but, in the absence of German Bundestag approval for their commitment, neither of these came into effect. A subsequent reduction in offtake by Germany (73 to 60) necessitated renegotiation and signature of IGAs and contract, which -was completed on 27 May 2003. A total of 180 aircraft are now being procured.

1b. Associated projects

Critical to Achievement of ISD		Critical to Meet 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 (AM SL) formerly known as Airbus Military Societe Par Actions Simplifee (AM SAS)	Development, Production and Initial in-service support	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	2619
Approved Cost at Main Gate	2744
Variation	-125
In-year changes in 2003/2004	+258

2b. Reasons for variation from approved cost

Factor	**Increase £m**	**Decrease £m**	**Explanation**
Technical Factors	83	70	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).
Changed Requirement	9	319	Reduction in number of aircraft to be equipped with Defensive Aids Sub-System (DASS) 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).
Changed Budgetary Priorities	14	81	Changed delivery profile from that in the Business Case (-£61m). Minor realism adjustments, includes UK share of 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).
Inflation	6	16	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).
Exchange Rate	222	232	Variation in exchange rate assumptions used in the Business Case, 2000/2001, 2001/2002 and 2002/2003 (-£232m). Variation in 2003/04 (+£222m).
Contracting Process	442	89	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

Factor	Increase £m	Decrease £m	Explanation
			(+£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).
Procurement Strategy	130	65	Total number of aircraft ordered by participating nations higher than anticipated, and consequent reduction in UPC (-£65m). Subsequent contract renegotiation due to German reduction in offtake (+£130m).
Accounting Adjustments and Re-definitions		43	Transfer from RDEL to CDEL (-£1m). Difference in variation figures due to revision of Cost of Capital Charge (-£42m).
Risk Differential	3	119	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-£119m). Variation due to revised approval figure (+£3m).
Total	+909	-1034	
Net Variation		-125	

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	38

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

Current forecast ISD	March 2011
Approved ISD at Main Gate	December 2009
Variation (Months)	+15
In-year changes in 2003/2004	0

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Changed Budgetary Priorities	16		Change in the customers requirement flowing from changed budgetary priorities (+16 months).
Procurement Strategy	9		Delay in bringing contract into effect as a result of delayed approvals in Germany (+9 months).
Risk Differential		10	Difference between the most likely and highest acceptable dates at Main Gate (-10 months).
Total	+25	-10	
Net Variation	+15		

3d. Cost resulting from ISD variation*

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	-
Other	-	-	-
Total	-	-	

3e. Operational impact of ISD variation

The delay to the ISD by 15 months to March 2011 is likely to aggravate the extant strategic, tactical and special forces airlift capability gap unless remedial action is taken. Director Equipment Capability (Expeditionary Logistics & Support) is assessing all options necessary to bridge the current and emerging capability gaps.

*In MPR 02 there were forecast to be run-on costs for C130K and C-17 due to the ISD variation on A400M. It is not at this stage possible to forecast accurately run-on costs directly attributable to the ISD variation on A400M, as the aim of any extension to the C-17 and C130K programmes is likely to be the introduction of an additional complementary, long-term capability.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	Deployment Capability	Yes
2	Payload	Yes
3	Environmental Operating Envelope	Yes
4	Tactical Operations	Yes
5	Navigation Performance	Yes
6	Communication System	Yes
7	Defensive Aids Suite	Yes
8	Aerial Delivery	Yes
9	Crew Composition	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

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-130Js 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 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 (EAC) in December 1999, additional work was undertaken to inform the Main Gate submission. On 16 May 2000 the Government announced their 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	0.07%
Variation	-1	

5c. Duration of Assessment Phase

Date of Main Gate Approval	May 2000
Target Date for Main Gate Approval at Initial Gate	June 1999
Variation (Months)	+11

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	2628	2744
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	-	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	-	February 2009	December 2009
Forecast ISD at Initial Gate	-	December 2007	-

POST MAIN GATE PROJECT SUMMARY SHEET

ADVANCED AIR-LAUNCHED ANTI-ARMOUR WEAPON (AAAW)

Integrated Project Team Responsible:

Brimstone

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 development phase is almost complete, only the remainder of the air trials firing programme to be finished. Due to delays in the completion of this (now due in November 2004), the in-service date has slipped to March 2005.

1b. Associated projects

Critical to Achievement of ISD		Critical to Meet Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
Tornado GR4/4a (Package 2)	2004	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
MBDA. Prime Contractor.	Development and Production.	Firm price until December 1998, fixed price thereafter.	International competition.
Boeing North American Operations. Sub contractor.	-	-	-

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	**Procurement Cost**
Current Forecast Cost	941
Approved Cost at Main Gate	814
Variation	+127
In-year changes in 2003/2004*	+14

2b. Reasons for variation from approved cost

Factor	Increase £m	Decrease £m	Explanation
Technical Factors	133	10	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 GFE (ie 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).
Changed Requirement	4	4	Reduction in launcher quantities and Service Weapon Test Sets(-£3m); deletion of Tornado Inboard Pylon (-£1m); additional requirements for Emulators (+£4m).
Changed Budgetary Priorities	53	49	Delay to ISD, milestone payment and Typhoon Integration (+£4m). Reduction of missile quantity by 25% (-£49m). Reinstatement of 25% missile reduction (+£49m).
Inflation	16		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).

* The in-year change takes account of an adjustment to the Current Forecast Cost for MPR03 reflecting the availability of more accurate figures relating to accruals and Tornado integration costs prior to 2003/2004.

Factor	Increase £m	Decrease £m	Explanation
Exchange Rate		6	Change in US Dollar exchange rate quoted in the contract (-£6m).
Accounting Adjustments and Re-definitions	19	29	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).
Total	+225	-98	
Net Variation	+127		

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	584

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
***	***	***	***

* UPC is cost of 1 weapon, ie launcher plus 3 missiles

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

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

3b. Performance against approved in-service date

Current forecast ISD	March 2005
Approved ISD at Main Gate	September 2001
Variation (Months)	+42
In-year changes in 2003/2004	+11

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Changed Requirement	12		Equipment Capability Customer request to bring Brimstone ISD into line with that of Tornado GR4/4a (+12 months).
Technical Factors	17		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).
Contracting Process	1		Delay in letting contract with Alenia Marconi Systems as pricing negotiations took longer than anticipated (+1 month).
Change in Associated Projects	12		Delay in provision of trials aircraft (ie Tornado GR4) (+12 months).
Total	+42		
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

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	Carriage, launch and jettison from Tornado GR4/4a, Harrier GR9 and Typhoon.	Yes
2	Autonomous operation after launch.	Yes
3	Detection and attack of Main Battle Tanks, Armoured Personnel Carriers and Self Propelled Guns.	Yes
4	Kill probability as defined in System Requirement Specification (SRS).	Yes
5	Launch from high and low altitude.	Yes
6	Resistance to active and passive countermeasures.	Yes
7	Component lives as defined in SRS.	Yes
8	Compatibility with existing aircraft loads.	Yes
9	Reliability, Maintainability and Testability as SRS.	Yes
10	Minimum Through-life costs.	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

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 (EAC) early in 1994.

In June 1994, the EAC 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 EAC. 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	2.4%
Approved Cost at Initial Gate	20	2.4%
Variation	+3	

5c. Duration of Assessment Phase

Date of Main Gate Approval	March 1996
Target Date for Main Gate Approval at Initial Gate	-
Variation (Months)	-

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	814	-
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	-	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	-	September 2001	-
Forecast ISD at Initial Gate	-	December 1991	

POST MAIN GATE PROJECT SUMMARY SHEET

AIRBORNE STAND-OFF RADAR (ASTOR)

Integrated Project Team Responsible:
Airborne Stand-Off Radar

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

ASTOR is a new capability, which will provide a long range all-weather theatre surveillance and target acquisition system, capable of detecting moving, fixed and static targets. It is designed to meet a joint Army and RAF requirement. The system comprises a fleet of air platforms, each with a radar sensor, and a number of ground stations.

Following a competition with Lockheed Martin and Northrop Grumman, Raytheon Systems Limited (RSL) was selected as the preferred bidder for ASTOR in June 1999. Contract award was achieved in December 1999. The Prime Contract with RSL is for the full development and productions of 5 aircraft and 8 mobile and transportable ground stations. The contract also covers the provision of 10 years' contractor logistic support, the costs of which are not reported below but amount to around £140m. Bombardier is the major sub-contractor providing the 5 Global Express aircraft.

Schedule risk analysis demonstrates the current ISD to be November 2005. The radar development risk is the main driver, although system integration is a growing concern. However, both Raytheon and the IPT and its stakeholders all continue to work towards a September 2005 ISD.

The first aircraft and ground stations are due to be delivered in 2005 with final deliveries being made in 2007.

1b. Associated projects

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

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
Raytheon Systems Limited (Prime Contractor)	Full Development and Production	Firm	International Competition
Bombardier Aerospace (Sub-contractor)	Production	Firm	International Competition

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	**Procurement Cost**
Current Forecast Cost	968
Approved Cost at Main Gate	914
Variation	+54
In-year changes in 2003/2004	-10

2b. Reasons for variation from approved cost

Factor	**Increase £m**	**Decrease £m**	**Explanation**
Technical Factors	12	4	Early delivery of facilities and 1 aircraft and 2 ground stations (-£4m). Late delivery of intangibles, 1 aircraft and 2 ground stations (+£12m).
Changed Requirement	16	21	Deletion of requirement to be fitted "for but not with" Air to Air refuelling (-£12m), reduction in costs for government furnished equipment (-£5m), incorporation of a number of improvements primarily for improved biological chemical protection (+£8m), Bowman derisk (+£1m), UHF Satcom (+£3m), additional provision for trials (+£4m) and reduction in requirement for project support (-£4m).
Exchange Rate	60		Changes in £/$ exchange rates (+£60m).
Contracting Process	12	18	Delay in contract award and reduced costs during Best and Final offers and contract negotiation (-£16m); reassessment of project support costs (-£2m); requirement for additional Technical Documentation (+£9m); additional costs associated with satellite communication and ground stations (+£2m) and additional costs for Bowman/Mission Support System (+£1m).
Accounting Adjustments and Re-definitions		3	Derivation of the approved cost on a resource basis (-£2m). Difference in variation figures due to revision of cost of capital charge (-£1m).
Total	+100	-46	
Net Variation	+54		

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	666

2d. Years of peak procurement expenditure

2001/2002	2002/2003

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
-	74.6	5 Aircraft	5 Aircraft
-	14.1	8 Ground Stations	8 Ground Stations

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	**Original ISD**: 2 aircraft and 2 ground stations accepted into service and supported by the provision of an adequate logistic and training support. **Current ISD definition**: The availability in service of 2 air platforms and 2 ground stations with a corresponding support capability and provision of sufficient trained manpower. **Reason for Change**: Resulting from clarification discussions with Customer 1 and 2 relating to operational availability (compared with acceptance) and provision of trained manpower (compared with training support).

3b. Performance against approved in-service date

Current forecast ISD	November 2005
Approved ISD at Main Gate	September 2005
Variation (Months)	+2
In-year changes in 2003/2004	+2

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Technical Factors	2		Technical difficulties with the Radar have delayed deliveries and the start of flight trials for the 1st ASTOR aircraft (+2 months).
Total	+2		
Net Variation	+2		

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	-
Other	-	-	-
Total	-	-	

3e. Operational impact of ISD variation

ASTOR is a new capability and as such does not currently impact on operations. There is a potential that the delay in ISD could lead to delays in training but the RAF and Army are delaying a decision on this to the last possible moment as the current plan may still be achievable.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	Endurance Minimum of ***x hrs***, within which ***x hrs*** at best endurance speed above ***x ft*** above mean sea level. ***x hrs*** at best cruise height and speed.	Yes
2	Altitude and Range : ***x ft*** and ***xkm***[3]	Yes
3	Ground Station Transportability : C130	Yes
4	Ground Station Responsiveness: Pre-planned tasks within ***x hrs*** of sortie closure	Yes
5	Radar Range : Radar Range bracket ***xkm*** (Min far range) - ***xkm*** (Max near radar range)	Yes
6	Air Platform Reaction Time : Turnaround < ***x hrs***	Yes
7	Air Segment Battlefield Mission : ***Moving Target Indicator scan rate x per min***	Yes
8	Air Segment Battlefield Mission (1): ***x Synthetic Aperture Radar Spot xkms***[4]	Yes
9	Air Segment Battlefield Mission (2): ***x Swathe Images*** per mission	Yes
10	Ground Segment Battlefield Mission: ***x days crisis and x days war***	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

In 1989 a Technology Demonstration Programme (TDP) worth £12m (at 99/00) prices was agreed with MOD Research Establishments which are now incorporated in QinetiQ (formerly the Defence Evaluation Research Agency). This intramural work ran for two years and demonstrated that the concepts used in ASTOR were practicable. A move into Project Definition (PD) was approved in September 1993. This is now deemed to be the equivalent of Initial Gate.

Following open competition, two parallel contracts for an 18 month PD programme were let in February 1995. After assessment of the PD proposals it was considered that the optimum solution would be to invite the two PD consortia to submit Best and Final Offers (BAFOs) for the Development, Production and In-Service Support. This revised Procurement Strategy was approved by the then Minister for Defence Procurement in March 1997.

During the preparation of invitations to the two PD consortia to submit BAFOs in September 1997 programming decisions were taken which delayed the availability of funding, particularly in the early years, and the In Service Date for the ASTOR capability was delayed by 15 months. During the BAFO phase, a decision was taken to consider a third bid based upon the US Joint Surveillance Target Attack radar system (JSTARS) upgrade programme, the Radar Technology Insertion Programme (RTIP). As a result various unsolicited revisions to the bids were received during the assessment process, further delaying the In Service Date by 14 months. Approval for the implementation phase was given after down selection in June 1999.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	13	1.3%
Approved Cost at Initial Gate	12	1.2%
Variation	+1	

5c. Duration of Assessment Phase

Date of Main Gate Approval	June 1999
Target Date for Main Gate Approval at Initial Gate	March 1998
Variation (Months)	+15

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	914	-
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	-	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	-	June 2005	September 2005
Forecast ISD at Initial Gate	-	April 2003	-

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POST MAIN GATE PROJECT SUMMARY SHEET

ASTUTE CLASS SUBMARINE

Integrated Project Team Responsible:
Attack Submarines

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 Electronics Ltd-Astute Class Project) was identified as MOD's preferred bidder in December 1995. Following protracted negotiations a prime contract was placed on 17 March 1997 for the design, build and in service support of the first 3 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. In parallel, the Department also commenced interdepartmental consideration about the extent to which the MoD would contribute to the resolution of the difficulties. An Agreement between the Department and BAE Systems was reached on 19 February 2003 which reduces risk (eg by separating the design, development, build and acceptance of the First of Class from the production of the second and third submarines), and places new incentives on the company to perform. Subject to final negotiations, the Department has 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 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 on 17 December 2003. Encouragingly since signature of the Agreement, all the programme's anchor milestones have been met and implementation of Earned Value Management (EVM) is already underway.

The Department's risk assessment shows a most likely ISD of January 2009 but this does not reflect opportunities to improve the programme which could bring this date forward by some months; BAE Systems are working towards an ISD of August 2008.

1b. Associated projects

Critical to Achievement of ISD		**Critical to Meet Initial Gate Requirement**	
Project Title	Forecast ISD	Project Title	Forecast ISD
S&T Update Final Phase	2005	-	-
Astute Class Training Service (ACTS)	2007	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
BAE Systems Electronics Ltd- Astute Class Project formerly BAE Systems Astute Class Ltd (BACL)	• Design/Development & production of First of Class (DD/FOC) • Production of Boats 2&3	• DD/FOC: Target Cost Incentive Fee • Boats 2&3 to be priced	UK Competition

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	3484
Approved Cost at Main Gate	2578
Variation	+906
In-year changes in 2003/2004	+10

2b. Reasons for variation from approved cost

Factor	Increase £m	Decrease £m	Explanation
Technical Factors	836	16	Reassessment of risk (+£51m). Reduction in risk on Sonar 2076 programme (-£16m) Re-costing of land attack missile interface & integration (+£5m). Re-costing of external communications (+£5m). Increase in overall BAES 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).
Contracting Process	55		Planned Contract Amendments (+£55m).
Changed Requirement	257		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 2nd Buy which has been brought forward into the 1st Buy (+£225m).
Inflation	40		Variation between anticipated rates for GDP and VOP on contract (sunk costs only) (+£14m), Correction of previous VOP calculation – incorrect split between labour and materials (+£26m).

Factor	Increase £m	Decrease £m	Explanation
Accounting Adjustments and Re-definitions		266	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).
Total	+1188	-282	
Net Variation	+906		

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	1501

2d. Years of peak procurement expenditure

2001/2002	2004/2005

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:	Stage 1 acceptance from the contractor (safe operation and start of operational work up).

3b. Performance against approved in-service date

Current forecast ISD	January 2009
Approved ISD at Main Gate	June 2005
Variation (Months)	+43
In-year changes in 2003/2004	0

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Technical Factors	43		Exceptional difficulties arose with the introduction of a computer aided design (CAD) system, the availability of trained staff and project management (+43 months).
Total	+43		
Net Variation	+43		

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	The effect on existing SSN support costs resulting from the Astute delay is being investigated.
Other	-	-	The effect on existing SSN re-fit costs resulting from the delay is being investigated.
Total	-	-	

3e. Operational impact of ISD variation

The Astute delay will result in delayed introduction of improved capability over current classes; such as improved detection and counter-detection, greater weapon load and increased availability. Also the Royal Navy is reviewing its plans for meeting the operational requirements of the SSN flotilla in light of the delays to the delivery of the Astute Class.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	Weapon system effectiveness	Yes
2	Sonar performance	Yes
3	Hull strength (survivability)	Yes
4	Top speed	Yes
5	Endurance	Yes
6	Acoustic signature	Yes
7	Complement	Yes
8	Land attack capability	Yes
9	Special forces capability	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

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 & Trafalgar Class SSNs. In June 1991,(equivalent of Initial Gate) approval 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 work were awarded to both bidders, GEC Marconi and Vickers Shipbuilding and Engineering Ltd. The successful outcome of these studies led to EAC approval (the equivalent of Main Gate) in March 1997 to place a contract for the design, build and initial support of 3 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
Target Date for Main Gate Approval at Initial Gate	-
Variation (Months)	-

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	2431	2578	2730
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	-	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	-	June 2005	-
Forecast ISD at Initial Gate	-	December 2001	-

POST MAIN GATE PROJECT SUMMARY SHEET

BOWMAN

Integrated Project Team Responsible:
Bowman & Land Digitization

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

Bowman 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.

In September 2001, following international competition, General Dynamics UK Ltd was awarded the Bowman Supply and Support contract as prime contractor, and conducted its own competition amongst sub-contractors. Bowman is being fielded in the following capability increments: Initial Operating Capability in November 2003, In Service Date (ISD) capability in March 2004, and Land Operational Readiness Date (ORD) capability in 2005. On current plans, the first brigade to be converted to Bowman should enter its high-readiness year coincident with delivery of the Bowman Land ORD capability. The Littoral (amphibious) and Air Manoeuvre ORDs are planned for late 2005 and late 2006 respectively.

Following the decision in December 2002 to commit the Army to convert to Bowman, progress against the programme has been assessed at successive Acceptance and Release Points against all six lines of development (including equipment and technology led by the DPA). These assessments aim to ensure that all relevant elements contributing to the delivery of capability and sustainability in service are formally reviewed. A programme of progressively more demanding and complex laboratory, technical and operational trials, that began in March 2003, continues to assess capability as it is delivered.

The results of operational field trials in March 2004 informed the customer's judgement that the programme had achieved the level of military capability required for it to be accepted into service. On this basis, Bowman achieved its ISD on 26 March 2004, nine months ahead of its approved ISD.

1b. Associated projects

Critical to Achievement of ISD		Critical to Meet 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 (formerly Computing Devices Canada 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	1991
Approved Cost at Main Gate	2041
Variation	-50
In-year changes in 2003/2004	-1

2b. Reasons for variation from approved cost

Factor	Increase £m	Decrease £m	Explanation
Changed Requirement	87		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).
Contracting Process	15		Revised prices for Selective Availability Anti Spoofing Modules (SAASM) (+£3m). Difference between approved D&M cost at Main Gate and Contract Price (+£12m).
Procurement Strategy	8		Contract Incentivisation for achieving key events leading to ISD (+£8m).
Accounting Adjustments and Re-definitions	5	17	Cost of Capital Charge reduced due to accounting for deliveries ahead of programmed profile. (-£17m). Difference in variation due to revision to Cost of Capital Charge (+£5m).
Risk Differential		148	Difference between risks allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-£144m). Variation due to revised approval figures (-£4m).
Total	+115	-165	
Net Variation		-50	

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	698

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	47000 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

Current forecast ISD	March 2004
Approved ISD at Main Gate	December 2004
Variation (Months)	-9
In-year changes in 2003/2004	0

3c. Reasons for variation from approved ISD

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

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	-
Other	-	-	-
Total	-	-	

3e. Operational impact of ISD variation

-

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	Secure Voice.	Yes
2	Secure Data.	Yes
3	Automatic Position Location, Navigation and Reporting service (APLNR)	Yes
4	Security.	Yes
5	Ease of Use.	Yes
6	Automated Management. Provide automated system management enabling support to the full spectrum of operations.	Yes
7	Data Communications Infrastructure.	Yes
8	Common Operating Environment. Support the Common Infrastructure for Battlefield Information Systems concept and provide a common operating environment for Digitization Stage 2.	Yes
9	Battlefield Connectivity. Allow the free-flow of data and voice within and between vehicles, groups of stationary vehicles, and other systems.	Yes
10	Tactical Internet. Provide a secure and robust tactical internet service making efficient use of limited bandwidth.	Yes
11	Combat Environment. Bowman is to support current operational C2 doctrine, practice, deployment and battle procedure.	Yes
12	Interoperability. Bowman is to provide interfaces to other key battlefield communication systems used at the tactical level	Yes
13	Physical Environment. 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	Electronic Environment. Make effective, robust use of the Electro-Magnetic Spectrum without degrading other systems.	Yes
15	Bowman Platforms. 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	Equipment Scaling. 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 EOS.	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

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. EAC 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	16.6%
Approved Cost at Initial Gate	130	6.1%
Variation	+267	

5c. Duration of Assessment Phase

Date of Main Gate Approval	August 2001
Target Date for Main Gate Approval at Initial Gate	December 1993
Variation (Months)	+92

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	1869	1893	2041
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	-	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	February 2004	March 2004	December 2004
Forecast ISD at Initial Gate	-	December 1995	-

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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

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. The weapon is required to operate in all weather conditions and will complement Typhoon's Advanced Short Range Air-to-Air Missile (ASRAAM). Until Meteor enters service, Typhoon will be armed with the Advanced Medium Range Air-to-Air Missile (AMRAAM).

The key features of the 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 5 other partner nations; Germany, Spain and Italy (for Typhoon), Sweden (for JAS 39 Gripen) and France (for Rafale). The Memorandum of Understanding was finalised by Germany's signature on 19 December 2002. This enabled the UK to place the demonstration, manufacture and support contract on behalf of the six nations with MBDA UK Ltd (formerly MBD(UK) Ltd) on 23 December 2002. The UK is presently the only nation to commit to production; the contract includes production options that can be exercised by partner nations during the demonstration programme.

1b. Associated projects

Critical to Achievement of ISD		Critical to Meet Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
Typhoon	2003	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
MBDA(UK) Ltd	Demonstration (all 6 nations) and Manufacture (UK only at present)	Firm Price up to June 2007 (Demonstration), Firm Price up to June 2006 (Manufacture), Fixed Price thereafter	International Competition

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	**Procurement Cost**
Current Forecast Cost	1355
Approved Cost at Main Gate	1362
Variation	-7
In-year changes in 2003/2004	+17

2b. Reasons for variation from approved cost

Factor	**Increase £m**	**Decrease £m**	**Explanation**
Changed Requirement	10	16	UK share of additional common requirements (+£2m). Additional requirement for Dual Data Link (+£6m). Additional Containers required for Meteor (+£2m). Refurbishment of existing AMRAAMs (-£16m).
Changed Budgetary Priorities	105	23	Increases for Insensitive Munitions (+£9m), Missiles and Ancillary Equipment in Support of Typhoon Integration (+£6m), Surveillance and Life Extension (+£5m), Initial Spares (+£3m), Container Development (+£1m), Container Production (+£1m), Support to Typhoon Integration (+£2m), revised deliveries of Meteor missiles (+£12m), Contractor Logistics Support for Meteor (+£7m), Production Investment (+£1m), Trial Ranges (+£11m), Increase in UPC for AMRAAM missiles (MPR03 +£25m; MPR04 +£15m), Surveillance Spares for AMRAAM (+£1m), UK share of GFE (+£6m). Decreases 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).
Exchange Rate	29	11	Change in £/□ exchange rate on Meteor prime contract (+£29m). Change in £/$ exchange on AMRAAM (-£11m).
Contracting Process	6		UK's share of MBDA revalidation of prices caused by delay in contract placement (+£6m).

Factor	Increase £m	Decrease £m	Explanation
Procurement Strategy	116	95	Additional funding required for integration of AMRAAM AIM 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 as other nations joined/rejoined the programme (-£30m). Increases for UK's share of development through transfer of workshare from Germany (+£31m) and UK share of GFE (+£1m).
Accounting Adjustments and Re-definitions	9	15	Change in assumptions with regard to recovery of VAT (+£9m). Derivation of approved cost on a resource basis (-£4m). Difference in variation figures due to revision of Cost of Capital Charge (-£11m).
Risk Differential	7	129	Difference between the risk allowed for in the most likely (50%) and highest acceptance (90%) estimates at Main Gate (-£129m). Variation due to revised approval figures (+£7m).
Total	+282	-289	
Net Variation		-7	

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	124

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	0.9	***	***

* 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*

Current forecast ISD	August 2012
Approved ISD at Main Gate	August 2012
Variation (Months)	0
In-year changes in 2003/2004	0

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Contracting Process	11		Slippage caused by delays in placing contract (+11 months).
Risk Differential		11	Difference between the risk allowed for in the most likely (50%) and highest acceptance (90%) estimates at Main Gate (-11 months).
Total	+11	-11	
Net Variation		0	

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	-
Other	-	-	-
Total	-	-	

3e. Operational impact of ISD variation

-

*ISD shown is for Meteor only.

SECTION 4: KEY USER REQUIREMENTS*

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	Multiple Target Capability	Yes
2	Kill Probability	Yes
3	Enhanced Typhoon Survivability	Yes
4	Typhoon Compatibility	Yes
5	Minimum Air Carriage Life	Yes
6	Reliability	Yes
7	Support	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

* KURs are for 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 the 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, 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	1%
Approved Cost at Initial Gate	14	1%
Variation	+6	

5c. Duration of Assessment Phase

Date of Main Gate Approval	May 2000
Target Date for Main Gate Approval at Initial Gate	March 1997
Variation (Months)	+38

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	1198	1240	1362
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	1226	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	June 2010	September 2011	August 2012
Forecast ISD at Initial Gate	-	March 2005	-

POST MAIN GATE PROJECT SUMMARY SHEET

C-17 (FORMERLY SHORT TERM STRATEGIC AIRLIFT)

Integrated Project Team Responsible:

C-17

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The 1998 Strategic Defence Review identified an urgent need to improve the RAF's strategic airlift capability and concluded that, in the short term, pending the introduction of Future Transport Aircraft (A400M), MOD should acquire a capability equivalent to four Boeing C-17 aircraft.

Following a competitive process, the decision was taken to lease four C-17 aircraft from Boeing to fulfil this capability. The lease is for a period of seven years commencing mid 2001, with the option of extending for up to a further two years.

Whilst the four C-17 aircraft are leased directly from Boeing, most of the support is being provided under US Government Foreign Military Sales (FMS) arrangements through the United States Air Force (USAF)/Boeing C-17 support contract.

The in-service date was declared on 30th September 2001. The aircraft are operated by 99 Squadron at RAF Brize Norton and have flown in support of Operations in Afghanistan and Iraq.

1b. Associated projects

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

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
McDonnell Douglas Corporation (A wholly owned subsidiary of the Boeing company)	Lease of four C-17 aircraft	Firm price	International competition
United States Department of Defense (US DoD) – United States Air Force (USAF)	Provision of support services for 4 x C-17 aircraft	Foreign Military Sales (FMS)	FMS

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	**Procurement Cost**
Current Forecast Cost	769
Approved Cost at Main Gate	785
Variation	-16
In-year changes in 2003/2004	-2

2b. Reasons for variation from approved cost

Factor	**Increase £m**	**Decrease £m**	**Explanation**
Changed Requirement*		2	Reduction in Annual Flying Task (-£2m).
Exchange Rate	25		Change in $/£ rate for FMS (+£25m).
Contracting Process	30	2	Formal FMS offer compared with estimate at time of approval (+£17m). Contracted price for Cargo Bay Mock-up compared with estimate (-£2m). Contracted price of lease compared with estimate at time of approval (+£13m).
Procurement Strategy		25	Military Aircraft Release achieved using existing US Release (-£25m).
Accounting Adjustments and Re-definitions		3	Exported costs to Strike Command for Building Work at Operating Base (-£3m).
Risk Differential		39	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-£39m).
Total	+55	-71	
Net Variation		-16	

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	294

2d. Years of peak expenditure

2002/2003	2003/2004

2e. Unit production cost

Unit Production Cost (£m)		**Quantities Required**	
at Main Gate	Current	at Main Gate	Current
N/A	N/A	4	4

* A previous variance of +£4m in MPR03 has been removed, as these are in-service support costs funded by the Conflict Prevention Fund

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	The availability of 2 aircraft, which are operated and maintained by appropriately trained and experienced RAF Personnel within Military Aircraft Release.

3b. Performance against approved in-service date

Current forecast ISD	September 2001
Approved ISD at Main Gate	December 2001
Variation (Months)	-3
In-year changes in 2003/2004	0

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Risk Differential		3	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-3 months).
Total		-3	
Net Variation		-3	

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	-
Other	-	-	-
Total	-	-	

3e. Operational impact of ISD variation

-

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	Deployment Capability: The STSA fleet must be capable of the deployment of 1,400 tonnes of freight over 3,200 nms in a 7 day period.	Yes
2	Payload Requirements: STSA must be capable of carrying a payload of 32,000 kg.	Yes
3	Environmental Conditions: STSA is to be capable of operating in temperatures which equate to sea level figures -40 to +49 deg C.	Yes
4	Airfield Operations: STSA is to be capable of landing on airfields with paved surfaces of a minimum length of 4,000 ft.	Yes
5	Navigation: STSA is to be capable of world-wide navigation.	Yes
6	Communications: STSA is to meet current interoperability requirements for communications.	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	None

Note: With the aircraft in service, all Key User Requirements have been met.

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

An invitation to tender was issued on 30 September 1998 to eight potential bidders for open competition at prime contractor level. The deadline for tenders was the same as that for the four-nation collaborative competition to identify the solution for the FTA requirement (now, A400M). The two competitions were linked and assessed in parallel, both to consider the most cost-effective solution overall and to ensure that the solution chosen for STSA did not prejudice the FTA competition.

In January 1999 five STSA bids were received: from Boeing (C-17), Air Foyle (Antonov An124-210), IBP (Antonov An124-100), Airbus Transport International (Beluga and a mix of A300 freighters), and Rolls Royce offering a fleet management service of MOD-acquired assets. The competition was terminated in August 1999, because none of the bids offered an acceptable combination of capability and cost.

The DPA continued to work with industry in a competitive environment to seek an off the shelf solution to meet the requirement. This work culminated in a Request for Proposals being issued in October 1999. Three proposals were received: Boeing (C-17), Air Foyle (Antonov An124-100), and Heavylift (Antonov An124-100). The final Main Gate submission went to the EAC in February 2000.

These proposals, together with those received in response to the FTA competition, received equally careful consideration against the criteria of operational capability, performance, affordability, international and industrial factors and value for money. The Secretary of State for Defence announced on 16 May 2000 that the UK had determined that the best solution to meet the long-term FTA requirement was the Airbus A400M, with the short-term requirement met by the lease of four C-17 aircraft.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	0.6	0.08%
Approved Cost at Initial Gate	-	-
Variation	-	

5c. Duration of Assessment Phase

Date of Main Gate Approval	May 2000
Target Date for Main Gate Approval at Initial Gate	-
Variation (Months)	-

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	746	785
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	-	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	-	September 2001	December 2001
Forecast ISD at Initial Gate	-	-	-

POST MAIN GATE PROJECT SUMMARY SHEET

COMBAT, DBL INFRASTRUCTURE AND PLATFORM BISA (CIP)

Integrated Project Team Responsible:
Bowman and Land Digitization

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

CIP comprises three closely interrelated projects procured as a single entity via the Bowman prime contractor:

Common Battlefield Application Toolset (ComBAT) is a set of common software tools delivering a battle management system to aid operational planning and control, and enhancing situational awareness.

Digitization of the Battlespace Land (DBL) Infrastructure builds on the Bowman communications and information system providing hardware and software in support of Headquarters to optimise the use of information and enable interoperability with national and international systems.

Platform Battlefield Information Systems Application (PBISA) integrates ComBAT with other systems and sensors to optimise the effectiveness of key armoured fighting vehicles (such as the Challenger 2 Main Battle Tank.).

The Assessment Phase contract was let to General Dynamics UK, the Bowman preferred supplier in August 2001, to manage the technical risk of integrating CIP with Bowman and achieve value for money. Following Main Gate approval in October 2002, the Supply and Support of CIP was added to the Bowman contract, 15 months after the award of the Bowman contract, in December 2002.

The Main Gate approval recognised that CIP would be fielded in three capability increments between 2004-2006 to manage the inherent risks attached to the fielding of a large and complex programme in a single stage. Although the approved in service date is December 2004, a demanding target of March 2004 was set to introduce the initial capability increment coincident with the delivery of Bowman. Extensive testing involving ComBAT and DBL Infrastructure (culminating in the Bowman Operational Field Trial in March 2004) indicated that a few more months of work are required to deliver the initial capability. A new target in service date was set for July 2004.

1b. Associated projects

Critical to Achievement of ISD		Critical to Meet Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
Bowman	2004	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
General Dynamics UK Ltd	Demonstration and Manufacture	Firm Price	Single source (NAPNOC).

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	340
Approved Cost at Main Gate	379
Variation	-39
In-year changes in 2003/2004	-3

2b. Reasons for variation from approved cost

Factor	Increase £m	Decrease £m	Explanation
Technical Factors		3	Reduction in level of technical risk within programme (-£3m).
Risk Differential		36	Difference between risks allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-£36m).
Total		-39	
Net Variation		-39	

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	58

2d. Years of peak procurement expenditure

2005/2006	2006/2007

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

3b. Performance against approved in-service date

Current forecast ISD	July 2004
Approved ISD at Main Gate	December 2004
Variation (Months)	-5
In-year changes in 2003/2004	+4

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Technical Factors	4		Performance of ComBAT battle management system during Bowman formation-level field trials in March 2004 resulted in additional time being necessary to develop and fully demonstrate effectiveness to deliver the initial ('early') capability (+4 months).
Risk Differential		9	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-9 months).
Total	+4	-9	
Net Variation		-5	

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	-
Other	-	-	-
Total	-	-	

3e. Operational impact of ISD variation

-

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	Situational Awareness.	Yes
2	Planning.	Yes
3	Co-operative Working.	Yes
4	Interoperability.	Yes
5	Hosting Battlefield Information System Applications.	Yes
6	Latency.	Yes
7	Common Information.	Yes
8	Platform Fightability.	Yes
9	Platform System Integration.	Yes
10	Graceful Degradation.	Yes
11	Sustainability.	Yes
	Percentage currently forecast to be met	100 %
	Change since previous MPR	N/A

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

CIP started life as three separate projects.

The Assessment Phase was conducted in two stages: a Limited Initial Assessment Phase (LIAP) and a Main Assessment Phase (MAP).

LIAP was aimed at defining the technology gap between the Bowman system capability and the ComBAT and DBL Infrastructure capability requirements, and how CIP could be brought into alignment with the Bowman programme. It was also intended to confirm the procurement strategy for PBISA. Additional assessments of who should be responsible for developing and delivering the PBISA solution favoured the Bowman prime contractor over the Platform Design Authorities.

The MAP built upon the output of the LIAP with the aim of recommending a single solution for each of the CIP projects to satisfy customer requirements whilst offering value for money at an acceptable risk. Through two stages, option analysis and system design, the MAP identified options to fill the gaps identified in the LIAP. This was achieved by the prime contractor undertaking a competitive sub-contract down selection process, the results of which were presented for MOD endorsement.

The Assessment Phase concluded that it was possible to align the CIP and Bowman projects with the optimal procurement strategy being to let the CIP Supply and Support contract as a non competitive amendment to the Bowman contract. Despite the significant risks of attempting to align CIP with Bowman fifteen months after the award of the Bowman contract, harmonisation of the Bowman and CIP in service dates was considered essential to meet time cost and performance requirements and avoid converting vehicles twice, for Bowman and then CIP, at nugatory cost. This strategy was endorsed at Main Gate. An extension of the Bowman contract for CIP was agreed with General Dynamics UK in December 2002.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	13	3.7%
Approved Cost at Initial Gate	13	3.7%
Variation	0	

5c. Duration of Assessment Phase

Date of Main Gate Approval	October 2002
Target Date for Main Gate Approval at Initial Gate	July 2002
Variation (Months)	+3

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	317	343	379
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	366	566

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	February 2004	March 2004	December 2004
Forecast ISD at Initial Gate	-	March 2004	December 2004

POST MAIN GATE PROJECT SUMMARY SHEET

FUTURE JOINT COMBAT AIRCRAFT (JCA)

Integrated Project Team Responsible:
Future Joint Combat Aircraft

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Strategic Defence Review confirmed the requirement to provide the Joint Force 2000 (joint command for all Harrier forces) with a multi-role fighter/attack aircraft to replace the Royal Navy Sea Harrier and the Royal Air Force Harrier GR7. Following participation in the Concept Demonstration Phase of the programme, the US Joint Strike Fighter (JSF) was selected to meet the requirement. The estimated in-service date is 2012 to coincide with the first of the new aircraft carriers (CVF) entering service. A tailored Main Gate Demonstration Approval was obtained in January 2001 for participation in the System Development and Demonstration (SDD) phase, along with £600m for related non-SDD work, leading to signature that month of the associated Memorandum of Understanding (MOU). Of the eight non US countries participating in SDD, the UK is the sole Level 1 partner, contributing $2Bn to this phase and obtaining key project roles within the JSF Joint Program Office. The US placed the SDD contract with the Prime Contractor, Lockheed Martin in October 2001 with the UK playing a major part in the down selection process. In September 2002 the UK selected the Short Take Off and Vertical Landing (STOVL) JSF variant to meet our requirement. As development has progressed, it has proved more difficult than anticipated to meet weight targets necessary to meet performance requirements. Additional work is being undertaken to address this issue. The UK continues to exert influence on the JSF programme via participation in the design process and, in particular, attendance at the Air System Design Integration Maturity Reviews this Spring. It is currently estimated that the approval will be exceeded by £337m. The intention is to examine further, cost and time performance trade options to bring the programme back to within approval as part of the 2005 Equipment Planning process. Alongside participation in the SDD phase, multilateral negotiations are now underway to agree the Memorandum of Understanding for the Production and Sustainment phases of the programme.

1b. Associated projects

Critical to Achievement of ISD		**Critical to Meet Initial Gate Requirement**	
Project Title	Forecast ISD	Project Title	Forecast ISD
Future Aircraft Carrier	2012	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
Lockheed Martin	System Development and Demonstration	Cost plus award fee, subject to a maximum price	Competitive, international collaborative procurement. UK participation through MOU agreement.

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	2573
Approved Cost at Main Gate	2236
Variation	+337
In-year changes in 2003/2004	+372

2b. Reasons for variation from approved cost

Factor	Increase £m	Decrease £m	Explanation
Technical Factors	87		Re-examination of risk within the overall programme (+£87m).
Changed Requirement	20	91	Reviews of the external missile systems for JCA resulted in the removal of the requirement for integrating an externally mounted Brimstone (-£41m) and ASRAAM (-£49m), and Paveway II and III (-£1m) capabilities. Further UK participation in the Joint Integrated Test Force to reflect UK acceptance into service strategy (+£20m).
Changed Budgetary Priorities	427	17	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).
Exchange Rate	189	94	Change in dollar/pound exchange rate (MPR02 +£189m; MPR03 -£9m; MPR04 -£85m).
Accounting Adjustments and Re-definitions	48	30	Interest on capital correction (MPR02 +£46m; MPR03 -£12m). New DPA

Factor	Increase £m	Decrease £m	Explanation
			requirement to include Price Forecasting Group costs within the equipment plan (+£1m). 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).
Risk Differential	11	213	Difference between the risk allowed for in the most likely (50%) and the highest acceptable (90%) estimates at Main gate (-£213m). Variation due to revised approval figures (+£11m).
Total	+782	-445	
Net Variation	+337		

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	201

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
-	-	-	-

*

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

Current forecast ISD	-
Approved ISD at Main Gate	The tailored Demonstration MG noted but did not approve the ISD
Variation (Months)	-
In-year changes in 2002/2003	-

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

† The In Service Date (ISD) approval will be sought as part of the MG Production Approval.

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
-	-	-	-
Total	-	-	
Net Variation	-	-	

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	-
Other	-	-	-
Total	-	-	

3e. Operational impact of ISD variation

-

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	Survivability	Yes
2	Interoperability	Yes
3	Combat radius	Yes
4	Mission performance	Yes
5	Mission reliability	Yes
6	Logistic footprint: The equipment required to support a number of aircraft for a prescribed period of time.	Yes
7	Sortie generation rates: JCA will be required to contribute to a significant proportion of the total missions required in the early stages of future operations, demonstrating a high level of reliability. This requirement is to enable generation of a predetermined number of sorties without placing an unacceptable burden on the logistics system.	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

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) of 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-effectiveness 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	6%
Approved Cost at Initial Gate	150	6%
Variation	-6	

5c. Duration of Assessment Phase

Date of Main Gate Approval	January 2001
Target Date for Main Gate Approval at Initial Gate	-
Variation (Months)	-

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	1971	2034	2236
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	-	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	-	December 2012	April 2014
Forecast ISD 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.

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POST MAIN GATE PROJECT SUMMARY SHEET

LIGHT FORCES ANTI-TANK GUIDED WEAPON (LF ATGW)

Integrated Project Team Responsible:
Infantry Guided Weapons

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

In January 2003 the US Javelin system produced by the Raytheon/Lockheed Martin Joint Venture was selected to meet the Light Forces Anti-Tank Guided Weapon (LF ATGW) requirement for the manufacture, supply and support of a crew portable Medium Range Anti-Tank Guided Weapon for the Light Forces, including training equipment. This is a Military Off the Shelf (MOTS) procurement.

Javelin is man-portable by a crew of two, carrying two missiles, for up to 16 kilometres. It is currently envisaged that this weapon will be provided to the Light Forces and Mechanised Infantry, replacing the ageing MILAN system. The Command Launch Unit (CLU) is reusable and the missile will be effective against all ground vehicles including modern and future battle tanks. Javelin will have a secondary capability against fixed defences and the ability to allow enclosed space firing. Effective range will be out to 2.5 kilometres.

To keep live firings in training to a minimum the emphasis is being placed on simulation.

Purchase of long lead items for the UK is complete and the programme is on track to meet its planned in-service date of November 2005.

1b. Associated projects

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

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
Javelin Joint Venture (Raytheon & Lockheed Martin)	Demonstration & Manufacture	Firm Price Direct Commercial Sale and Foreign Military Sales Case	Competitive International

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	**Procurement Cost**
Current Forecast Cost	318
Approved Cost at Main Gate	345
Variation	-27
In-year changes in 2003/2004	+3

2b. Reasons for variation from approved cost

Factor	**Increase £m**	**Decrease £m**	**Explanation**
Changed Budgetary Priorities	3		Changes in timings of spend and asset deliveries leading to variations in Cost of Capital (+£3m).
Risk Differential		30	Difference between risk allowed for in most likely (50%) and highest acceptable (90%) estimates at Main Gate (-£30m).
Total	+3	-30	
Net Variation		-27	

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	56

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
0.1	0.1	378 (CLUs)	378 (CLUs)

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	A Brigade trained and equipped.

3b. Performance against approved in-service date

Current forecast ISD	November 2005
Approved ISD at Main Gate	August 2006
Variation (Months)	-9
In-year changes in 2003/2004	0

3c. Reasons for variation from approved ISD

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

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	-
Other	-	-	-
Total	-	-	

3e. Operational impact of ISD variation

-

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently Forecast to be met (Yes or No)
1	The User shall be provided with a capability to defeat T80U and T90 Main Battle Tanks (MBT).	Yes
2	The User shall be provided with an engagement capability with a Single Shot Kill Probability (SSKP) of at least [xxxx] for T80 PIP1 and T90 targets.	Yes
3	The User shall be provided with a surveillance capability which has a 50% probability of recognising a NATO standard MBT target at 2500m under 0.2 extinction coefficient.	Yes
4	The User shall be provided with a surveillance capability which has a 50% probability of identifying a NATO standard MBT target at 1900m under 0.2 extinction coefficient.	Yes
5	The User shall be provided with an engagement capability for targets at a maximum range of 2500m.	Yes
6	The User shall be provided with an engagement capability for targets at a minimum range of 200m.	Yes
7	The User shall be provided with an engagement capability, which can engage a target from any direction.	Yes
8	The User shall be provided with a capability that has the same mobility as an LF soldier.	Yes
9	The User shall be provided with a capability that can operate following field storage for up to 1 year in different climatic environments.	Yes
10	The User shall be provided with an LF ATGW capability with an operational availability of not less than 95% over 30 days warfighting of which 7 days will be high intensity.	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	N/A

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

The Assessment Phase evaluated available MOTS systems, established through competition the best value for money solution to meet the requirement and produced a recommended option.

Initial Gate Approval was secured in July 2000 and in July 2001 a Review Note was approved to incorporate the Mechanised Infantry requirement. Following the issue of a Request for Proposals in September 2000, a contract was placed with Rafael to enable evaluation of the SPIKE system, and two Foreign Military Sales (FMS) Cases were implemented with the US DoD to acquire the JAVELIN system and to obtain the services of the Javelin Joint Venture. These were the only weapons systems deemed likely to meet the requirements in the necessary timescale.

The Main Gate approval in January 2003 authorised the procurement of the JAVELIN system. A contract was placed with the JAVELIN Joint Venture (Raytheon and Lockheed Martin) in February 2003, supported by an FMS Case, for Demonstration, Manufacture and Support.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	9	3%
Approved Cost at Initial Gate	11	3%
Variation	-2	

5c. Duration of Assessment Phase

Date of Main Gate Approval	January 2003
Target Date for Main Gate Approval at Initial Gate	September 2002
Variation (Months)	+4

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	304	315	345
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	467	522	582

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	July 2005	November 2005	August 2006
Forecast ISD at Initial Gate	December 2004	April 2005	June 2005

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POST MAIN GATE PROJECT SUMMARY SHEET

NEXT GENERATION LIGHT ANTI-ARMOUR WEAPON (NLAW)

Integrated Project Team Responsible:
Infantry Guided Weapons

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 LAW 80, which is approaching the end of its effective life. NLAW will provide a capability out to a range of 600m, against main battle tanks and light armoured vehicles, 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 the infantry in conjunction with medium range weapons (up to 2000-3000m), but will be the only individual anti-armour weapon for the Royal Marines and the Royal Air Force Regiment.

The design process for NLAW is nearing completion and low rate production is planned to begin in the third quarter of 2005. NLAW is on track to meet its planned in-service date of November 2006.

1b. Associated projects

Critical to Achievement of ISD		Critical to Meet 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	Full Development and Production	Firm Price (Development Phase) & Fixed Price (Production)	Competitive International

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	**Procurement Cost**
Current Forecast Cost	355
Approved Cost at Main Gate	415
Variation	-60
In-year changes in 2003/2004	-22

2b. Reasons for variation from approved cost

Factor	**Increase £m**	**Decrease £m**	**Explanation**
Technical Factors	1	6	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).
Changed Budgetary Priorities	3		Changes in timings of spend and asset deliveries leading to variations in cost of capital (+£3m).
Contracting Process	4	5	Price for trainers spares (+£2m); price for vehicle kits (+£1m); price for combat weapons (+£1m). Price for core development contract (-£5m).
Procurement Strategy		19	Reduction in cost of Development attributable to collaboration with Sweden (-£9m); VAT saving on Development associated with collaborative approach (-£10m).
Risk Differential		38	Difference between risk allowed for in most likely (50%) and highest acceptable (90%) estimates at Main Gate (-£38m).
Total	+8	-68	
Net Variation		-60	

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	58

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
0.02	0.02	14002	14008

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	A Brigade trained and equipped.

3b. Performance against approved in-service date

Current forecast ISD	November 2006
Approved ISD at Main Gate	July 2007
Variation (Months)	-8
In-year changes in 2003/2004	0

3c. Reasons for variation from approved ISD

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

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	-
Other	-	-	-
Total	-	-	

3e. Operational impact of ISD variation

-

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently Forecast to Be met (Yes or No)
1	NLAW shall be made ready in 10 secs.	Yes
2	The time to fire for NLAW shall be less than 10 secs.	Yes
3	The system configured for tactical carriage shall have a mass of not more than 12.5kg	Yes
4 & 5	Against a moving target Main Battle Tank (MBT) Target, defined as [CLASSIFIED] shall achieve a Single Shot Kill Probability (SSKP) of [CLASSIFIED] between 20 and 400m	Yes
6 & 7	Against a moving Light Armoured Fighting Vehicle (LAFV) Target, defined as [CLASSIFIED] NLAW shall achieve an SSKP of [CLASSIFIED] between 20 and 400m	Yes
8	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%
	Change since previous MPR	N/A

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

Following approval to issue an Invitation To Tender to conduct Project Definition studies in September 1997, competitive firm price contracts were awarded in October 1999 to Matra BAe Dynamics in the UK and Celsius in Sweden. The delay between approval 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. Each contract lasted 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
Target Date for Main Gate Approval at Initial Gate[1]	April 2000
Variation (Months)	+25

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	359	377	415
Cost of Demonstration and Manufacture Phase forecast at Initial Gate[1]	453	468	588

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	August 2006	November 2006	July 2007
Forecast ISD at Initial Gate	May 2004	June 2005	August 2006

* Approval to conduct Project Definition studies taken as equivalent to Initial Gate.

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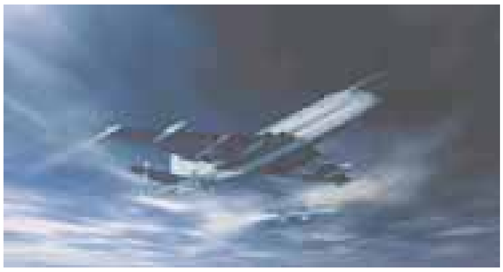
POST MAIN GATE PROJECT SUMMARY SHEET

NIMROD MARITIME RECONNAISSANCE & ATTACK Mk4 (NIMROD MRA4)



Integrated Project Team Responsible:
Nimrod MRA4

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 Unit 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 Nimrod MRA4 contract was placed with BAE Systems (then BAe) in 1996, 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 announced that it had reached an agreement with BAE Systems to change the current fixed price contract to a Target Cost Incentive Fee (TCIF) contract for Design and Development. This was effected by contract amendment on 23 February 2004.

Design/development and manufacture have been separated as far as possible to ensure technology is adequately de-risked and proven before customer and supplier accepts commitment to a production price and schedule. The development and production of the first three Nimrod MRA4s to be used as trials aircraft is well underway, with first flight planned for summer 2004. The production price for all aircraft has yet to be negotiated. The recent contract amendment therefore refers – but does not commit – to an option for the production of the remaining 15 aircraft. However, the contract recognises the substantial commitments already made and allows for further approval of long lead items and activity to preserve skill sets in the supply chain, where appropriate, and minimise risk to the ISD schedule. The Department is also exploring the future adaptability potential of the aircraft to fulfil broader roles, particularly Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR).

1b. Associated projects

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

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
BAE Systems (formerly British Aerospace Defence Ltd Military Aircraft Division)	Development	Target Cost Incentive Fee*	Prime Contractor International Competition
Boeing Defence and Aerospace Group, USA	Tactical Command System and Sensors	Fixed Price	Sub-contractor to BAE Systems

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	3593
Approved Cost at Main Gate	2813
Variation	+780
In-year changes in 2003/2004	+408

2b. Reasons for variation from approved cost

Factor	Increase £m	Decrease £m	Explanation
Technical Factors	720	17	Increase in DERA estimate (+£13m): reduction in study requirements (-£6m); slower technical progress than originally envisaged, particularly with wing mass, leading to reduced Interest on Capital charges (IOC) (-£9m). Reduced IOC linked to reduction in aircraft numbers (-£2m); additional costs relating to the Agreement of Feb 2003 (+£359m). Increased Programme costs (+£349m).
Changed Requirement	225	140	Reduction from 21 to 18 aircraft (MPR02 saving of £114m less estimated termination costs of £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 Feb 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

* Originally let as a Fixed Price Contract

Factor	Increase £m	Decrease £m	Explanation
			in Government Furnished Equipment requirement (-£5m).
Changed Budgetary Priorities		34	Reduction in Risk provision (MPR00 - £17m; MPR02 -£17m).
Inflation	41		Variation in Inflation assumptions (+£41m).
Receipts	39	46	Forecast recovery of Liquidated Damages (-£46m) less those to be foregone as part of the Agreement announced on 29 Feb 03 (+£39m).
Contracting Process	148	119	Reduction in Risk provision (-£56m); and reductions following the re-negotiation 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 Feb 2003 for Design and Development Target Cost Fee (+£132m).
Accounting Adjustments and Re-definitions	30	67	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 figures due to revision of Cost of Capital Charge (-£22m).
Total	+1203	-423	
Net Variation	+780		

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	1871

2d. Years of peak procurement expenditure

2003/2004	2006/2007

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
At Main Gate	Current	at Main Gate	Current
Development and Production Package	Production element not yet contractually committed	21	18

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	**Original ISD definition**: Delivery of seventh production standard aircraft to the Royal Air Force. **Current ISD definition**: (Part of the 19 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 is one third of the fleet and broadly represents one squadron.

3b. Performance against approved in-service date

Current forecast ISD	September 2009
Approved ISD at Main Gate	April 2003
Variation (Months)	+77
In-year changes in 2003/2004	+6

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Technical Factors	80	3	Resource and technical problems at BAE Systems (MPR00 +23 months; MPR02 +11 months; MPR03 +40 months; MPR04 +6 months). Difference between forecast date reported in MPR99 based upon the 1999 re-approval at 90% confidence (March 2005) and forecast date reported in MPR00 based upon the then current plan at 50% confidence (-3 months).
Total	+80	-3	
Net Variation	+77		

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 (+£344m)
Other		150	Reduction in MRA4 support costs over the same period (-£150m).
Total	+194		

3e. Operational impact of ISD variation

The consequence of the Nimrod MRA4 ISD slip is that the Nimrod MR2 will remain in service until March 2011. This slip will delay introduction of the improved Anti-Submarine and Anti-Surface Unit Warfare capability of the Nimrod MRA4 and will 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 to 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

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently Forecast to be met (Yes or No)
1	Anti-Submarine Warfare (ASW) Barrier Search – Probability of Detection (PD)	Yes
2	ASW Area Search - Probability of Detection (PD)	Yes
3	ASW Passive Localisation & Attack - Weapon Splashpoint Error Range (WSER)	Yes
4	ASW Passive Localisation & Attack - Probability of Localisation (PL)	Yes
5	ASW Active Localisation & Attack - Weapon Splashpoint Error Range (WSER)	Yes
6	Anti-Submarine Warfare (ASW) - Time on Station (ToS)	Yes
7	Anti-Surface Warfare (ASuW) - Time on Station (ToS)	Yes
8	ASuW Area Search - Probability of detecting operational targets within a specified area	Yes
9	ASuW Third Party Targeting - Determination of target position, course and speed for third party targeting	Yes
10	Airfield Performance - achieving defined take off performance	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

In November 1992, the Equipment Approvals Committee (EAC) 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 EAC endorsed the requirement and approved an Invitation to Tender phase whereby four companies (BAe, 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's Nimrod 2000 (later to be re-designated Nimrod MRA4) offer was approved by EAC 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
Target Date for Main Gate Approval at Initial Gate	-
Variation (Months)	-

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	2813	-
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	-	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	-	April 2003	-
Forecast ISD at Initial Gate	-	December 2000	-

POST MAIN GATE PROJECT SUMMARY SHEET

SKYNET 5

Integrated Project Team Responsible:
Satellite Acquisition Team

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Skynet 5 PFI programme will provide the next generation of flexible and survivable satellite communications services for military use and will replace the Skynet 4 constellation at the end of its predicted life.

Robust military satellite communications services are essential to support the inter and intra-theatre information exchange requirements and ensure that the deployed and mobile forces are not constrained by the need to remain within the range of terrestrial communications.

Following Main Gate and Ministerial approval, Paradigm was announced as the preferred service provider in February 2002. The Skynet 5 contract was awarded to Paradigm Secure Communications Limited on 24 October 2003.

Future milestones include:

Transitional Operational Service (TOS) – May 2003
Initial Operational Service (IOS) – February 2005 (50%)
Full Operational Service – August 2007 (50%)

1b. Associated projects

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

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
Paradigm Secure Communications Limited	Competitive - International	Firm for 5 years; fixed thereafter	PFI

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	**Procurement Cost**
Current Forecast Cost	2775
Approved Cost at Main Gate	2920
Variation	-145
In-year changes in 2003/2004	+96

2b. Reasons for variation from approved cost

Factor	**Increase £m**	**Decrease £m**	**Explanation**
Contracting Process	96		Increase in cost during contract negotiation (+£96m).
Risk Differential		241	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-£241m).
Total	+96	-241	
Net Variation		-145	

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	30

2d. Years of peak expenditure

2015/2016	2016/2017

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:	Skynet 5 communications services over the Skynet 4 constellation of satellites.

3b. Performance against approved in-service date

Current forecast ISD	February 2005
Approved ISD at Main Gate	March 2005
Variation (Months)	-1
In-year changes in 2003/2004	0

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Risk Differential		1	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-1 month).
Total		-1	
Net Variation		-1	

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	-
Other	-	-	-
Total	-	-	

3e. Operational impact of ISD variation

-

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	Users have assured access to Skynet 5 services on demand.	Yes
2	Users shall benefit from a mix of Skynet 5 services ensuring satisfaction of the Information Exchange Requirement (IER).	Yes
3	Users shall not experience reduction in capability when Skynet 4 performance decays below acceptable levels.	Yes
4	Users access to Skynet 5 services scaled to meet the IER	Yes
5	Key garrisons and deployed forces in areas of strategic interest able to exchange information with other users.	Yes
6	Mobile and covert users on a variety of platforms able to exchange information with other users.	Yes
7	Users benefit from flexible services that accommodate growth in IER.	Yes
8	Users able to exchange information with co-operating forces in a variety of scenarios without disruption to operations.	Yes
9	Critical information exchanged without disruption via hostile or natural means.	Yes
10	Timely, effective up-to-date training available to exploit available resources.	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

After Initial Gate in 1993 Assessment Phase work considered 3 options, TRIMILSATCOM (a collaborative programme with France and Germany), conventional procurement and PFI. Evaluation demonstrated that TRIMILSATCOM would not meet the UK requirements in time and cost. The decision not to proceed with this option was made in August 1998. In March 1999 competitive PFI design study contracts were awarded to Matra-Marconi Space UK (now Astrium) and Lockheed Martin, who considered a range of SATCOM architectures. In July 2000 both companies were issued with an Invitation to Negotiate for the PFI service delivery. The PFI studies culminated in January 2001 with proposals from service delivery entities established by Astrium (Paradigm) and Lockheed Martin, BAE Systems and British Telecommunications (Rosetta). In July 2001 an extended Revise and Confirm was issued. Best and Final responses were received in November 2001.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	123	4.4%
Approved Cost at Initial Gate	113	4.0%
Variation	+10	

5c. Duration of Assessment Phase

Date of Main Gate Approval	January 2002
Target Date for Main Gate Approval at Initial Gate	-
Variation (Months)	-

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	2450	2679	2920
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	-	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	January 2005	February 2005	March 2005
Forecast ISD at Initial Gate	-	May 2003	-

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POST MAIN GATE PROJECT SUMMARY SHEET

SONAR 2087

Integrated Project Team Responsible:
S2087

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

Submarines remain one of the main threats to maritime forces and Sonar 2087 will significantly enhance the Royal Navy's Anti-Submarine Warfare capability. The new system offers improvements in the ability to detect, classify and track quieter submarines, particularly in littoral waters and at greater ranges.

Sonar 2087 combines active and passive systems and will be stern-mounted on Type 23 Frigates, replacing Sonar 2031 (passive towed array system), where fitted.

Feasibility Studies (FS) were approved in 1994. Two of the three competing companies were then selected to undertake Project Definition (PD) studies, following approval in April 1997. Approval was given in January 2001 for up to 16 sets, the total number of Type 23s. A contract for the Demonstration, Manufacture and Support of the first 6 ship sets was awarded to Thomson Marconi Sonar Ltd (now Thales Underwater Systems Ltd) in April 2001. The planned number of ship sets was reduced to 12 during the 2002 planning round. The contract has an option price for the remaining ship sets.

The programme of sea trials started in summer 2002. The first ship-fit, using pre-production equipment, began in January 2004. The In-Service Date (ISD) is May 2006, with Initial Operating Capability in January 2007. All 12 ships are planned to be fitted by 2014.

1b. Associated projects

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

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
Thales Underwater Systems (formerly Thomson Marconi Sonar Ltd.)	Demonstration, Manufacture and Support	Firm price	UK Competition

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	**Procurement Cost**
Current Forecast Cost	357
Approved Cost at Main Gate	408
Variation	-51
In-year changes in 2003/2004	+15

2b. Reasons for variation from approved cost

Factor	**Increase £m**	**Decrease £m**	**Explanation**
Changed Requirement	27	26	Reduction in the planned number of ship sets from 16 to 12 (-£26m). Changes in the timings of asset deliveries leading to variations in cost of capital (MPR03 +£12m; MPR04 +£4m). Transfer - in from Attack Submarine IPT for the Shore Based Analysis Facility Environmental (+£9m). Impact Assessment Toolkit (+£2m).
Accounting Adjustments and Re-definitions		10	Difference in variation figures due to revision of Cost of Capital Charge (-£10m).
Risk Differential		42	Difference between the risk allowed for the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-£42m).
Total	+27	-78	
Net Variation		-51	

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	91

2d. Years of peak procurement expenditure

2004/2005	2006/2007

2e. Unit production cost

Unit Production Cost (£m)		**Quantities Required**	
at Main Gate	Current	at Main Gate	Current
17.6	12.1	16	12

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	Initial acceptance of Sonar 2087 based on achievement of Key User Requirements 1 and 2*

3b. Performance against approved in-service date

Current forecast ISD	May 2006
Approved ISD at Main Gate	December 2006
Variation (Months)	-7
In-year changes in 2003/2004	0

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Risk Differential		7	Difference between the risk allowed for the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-7 Months).
Total		-7	
Net Variation		-7	

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	-
Other	-	-	-
Total	-	-	

3e. Operational impact of ISD variation

-

* A part delivery of KUR 1, representing an adequate measure of beneficial military worth, will be accepted at the in-service date. The remainder of KUR 1 will be delivered at Initial Operating Capability.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	Detection – Active (Deep Water)	Yes
2	Detection – Active (Shallow Water)	Yes
3	Detection – Passive	Yes
4	Variable Depth Capability	Yes
5	Classification – False Alarm Rate	Yes
6	Tracking – Active Capability	Yes
7	Combat System Integration	Yes
8	Unimpaired Speed	Yes
9	Survivability	Yes
10	Availability	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

Feasibility Study (FS) approval was given in April 1994 and Project Definition (PD) in April 1997. The options for meeting the requirement were tested at each stage. Alternatives such as off-the-shelf equipment or collaboration were investigated. The scope for trade-offs was assessed and costed proposals for the next phase produced. Parallel contracts were placed with 3 companies in the FS phase. Two were selected to carry out competitive PD studies. A series of measures reflecting budgetary constraints as well as realism delayed the ISD to December 2005. After risk reduction work at the end of the Assessment phase, Main Gate approval was granted in January 2001. The approval included acceptance of performance trade-offs (shortening of the passive array and removal of the torpedo interceptor) and a realistic plan for achieving the approved ISD of December 2006.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	49	12.1%
Approved Cost at Initial Gate	52	11.3%
Variation	-3	

5c. Duration of Assessment Phase

Date of Main Gate Approval	January 2001
Target Date for Main Gate Approval at Initial Gate	January 1998
Variation (Months)	+36

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	366	408
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	414	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	-	May 2006	December 2006
Forecast ISD at Initial Gate	-	July 2003	-

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POST MAIN GATE PROJECT SUMMARY SHEET

STING RAY LIGHTWEIGHT TORPEDO LIFE EXTENSION AND CAPABILITY UPGRADE

Integrated Project Team Responsible:
Torpedoes

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 needs 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 Group (now BAE Systems Electronics Ltd) on 10 July 1996. The design is progressing well with the development in water trials completing in 2002. Contract Acceptance Trials completed in 2003. Following approval for the SRLE manufacture phase, a contract was awarded to BAE Systems on 30 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 at the Department's request. The warhead is required to comply with new Departmental safety policy. Ministerial approval was given for an Assessment Phase for the new warhead in September 2001. Assessment Phase work continues with BAES as the prime contractor and is expected to complete in 2004/05.

Future milestones: complete warhead Assessment Phase and place Demonstration and Manufacture contract by November 2004; SRLE in-service date (ISD Initial Operating Capability) of May 2006.

1b. Associated projects

Critical to Achievement of ISD		Critical to Meet 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. (formerly GEC-Marconi Underwater Systems Group)	Full Development & 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	794
Approved Cost at Main Gate*	744
Variation	+50
In-year changes in 2003/2004	-4

2b. Reasons for variation from approved cost

Factor	Increase £m	Decrease £m	Explanation
Changed Requirement	13	3	Assessment work on a new Insensitive Munition Warhead, resulting from change in Departmental munitions safety policy (+£12m). Removal of warhead life extension funds (-£3m). Addition of safety case to comply with new Health & Safety regulations for warships (+£1m).
Changed Budgetary Priorities	41	4	Increase to Interest on Capital due to: 12 month ISD delay (+£8m), earlier manufacture payments (+£19m) and rescheduling of test equipment deliveries (+£9m). Revised estimate for Trials activities (+£2m). Re-assessment of manufacture estimate (MPR03 +£3m; MPR04 -£3m). Reassessment of Demonstration estimate (-£1m).
Inflation		1	Variation due to revised estimate for development contract Variation of Price

* SRLE is a legacy project and the approved cost at MG comprises two separate approvals; Demonstration (50%) and Manufacture (90%).

Factor	Increase £m	Decrease £m	Explanation
			clauses (-£1m).
Contracting Process	4		Development contract price exceeded estimate at approval (+£4m).
Accounting Adjustments and Re-definitions	20	3	Inclusion of DERA support previously treated as an intramural charge (+£11m). Re-assessment of DERA support expenditure (+£5m). Derivation of the approved cost on a resource basis (+£4m). Difference in variation figures due to revision of Cost of Capital Charge (-£3m).
Risk Differential	1	18	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).
Total	+79	-29	
Net Variation	+50		

2c. Expenditure to date

Expenditure to 31 March 2003 (£m)	213

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
***	***	***	***

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

Current forecast ISD	May 2006
Approved ISD at Main Gate	December 2002
Variation (Months)	+41
In-year changes in 2002/2003	0

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Changed Budgetary Priorities	24		The need to match the MoD programme to available resources in the overall pattern of MoD priorities (+24 months).
Contracting Process	17		Delay due to contract negotiations taking longer than expected (+9 months) and reassessment of programme timescales following negotiations (+8 months).
Total	+41		
Net Variation	+41		

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	Currently forecast to be met (Yes or No)
1	Overall Torpedo Effectiveness	Yes
2	Hit Probability	Yes
3	Automobile Performance	Yes
4	Torpedo Counter Countermeasure Capability	Yes
5	Operational Environment	Yes
6	Water Depth	Yes
7	Acoustic Environment Capability	Yes
8	Warhead & Firing Chain	Yes
9	Availability, Reliability & Maintainability	Yes
10	Maintenance & Transport Environment	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

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 Post-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
Target Date for Main Gate Approval at Initial Gate	-
Variation (Months)	-

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	709	727	744
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	-	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	-	December 2002	-
Forecast ISD at Initial Gate	-	-	-

POST MAIN GATE PROJECT SUMMARY SHEET

SUCCESSOR IDENTIFICATION FRIEND OR FOE (SIFF)

Integrated Project Team Responsible:
Successor Identification Friend or Foe

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Successor Identification Friend or Foe (SIFF) programme will replace many of the existing IFF systems currently in use with the UK Armed Forces. SIFF will be fitted to some 40 in-service sea, land and air platform-types to provide a modern, NATO-compatible, secure IFF system, enabling swift and accurate identification of friendly forces.

The Strategic Defence Review endorsed the continuing validity of the SIFF requirement as part of the process of modernisation. It also endorsed the procurement of SIFF for Tornado F3 ahead of the other platform-types, to achieve cost savings and to reduce programme risk through alignment with the aircraft's Capability Sustainment Programme (CSP). An incentivised No Acceptable Price No Contract (NAPNOC) Demonstration and Manufacture (D&M) contract was let in November 1998 with BAE Systems (formerly British Aerospace (BAe)), the aircraft Design Authority (DA).

In August 2000, Ministers approved the D&M Phase for the SIFF main programme. This phase covers the majority of the platform-types to be fitted with SIFF. Due to the number and diversity of the platform-types, it is not possible to have a single prime contractor to manage the entire programme. Consequently, following competition between BAE SYSTEMS and Raytheon Systems Ltd, a contract was placed with the latter in December 2000 for the supply of the SIFF equipment and its integration into many of the platform-types. For the remaining platform-types, the individual platform DAs would be contracted under NAPNOC arrangements. NAPNOC contracts were let between December 2000 and December 2003 for Rapier, Sea King MKs 4/5, Hercules C130K, Merlin MK 1, Type 23 Frigates Command System, Tornado GR4, Sentry E-3D, Harrier GR9 and also a competitive contract for the UK Air Defence Ground Environment integrated command and control system. The in-service date was achieved in March 2004. Two major contracts (and a number of smaller ones) have still to be let and it is planned that this will have been done by the end of 2004.

Separately, but as part of the overall SIFF project, approval was given for the Demonstration and Manufacture Phase for SIFF for the High Velocity Missile in April 2001. Subsequently a NAPNOC contract was let in June 2001 with Thales Air Defence Ltd as prime contractor, with Thales Communication of France as the main subcontractor following competition.

1b. Associated projects

Critical to Achievement of ISD		Critical to Meet Initial Gate Requirement	
Project Title	Forecast ISD	Project Title	Forecast ISD
None	None	None	None

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
Raytheon Systems Ltd	SIFF Main Programme prime contractor and responsible for installation and integration of equipment on some 30 platform-types	Firm Price	Competitive (Value ***)
BAE Systems (formerly British Aerospace)	Prime contractor for SIFF for Tornado F3	Firm Price	NAPNOC Non-competitive, the value of which amounts to some *** of the Main Programme prime contract.
Thales Air Defence Ltd	Prime contractor for SIFF for HVM	Firm Price	NAPNOC Non-competitive, the value of which amounts to some *** of the Main Programme prime contract.
BAE Systems	Prime contractor for SIFF for Harrier GR9	Firm Price	NAPNOC Non-competitive, the value of which amounts to some *** of the Main Programme prime contract.
BAE Systems	Prime contractor for SIFF for Tornado GR4	Firm Price	NAPNOC Non-competitive, the value of which amounts to some *** of the Main Programme prime contract.
MBDA Missile Systems (formerly Matra BAe Dynamics UK (Ltd)	Prime contractor for SIFF for Rapier	Firm Price	NAPNOC Non-competitive, the value of which amounts to some *** of the Main Programme prime contract.

Note: Future SIFF contracts will include those for Chinook MKs 2&2a, Lynx MKs 7&9 and various simulators.

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	**Procurement Cost**
Current Forecast Cost	464
Approved Cost at Main Gate	548
Variation	-84
In-year changes in 2003/2004	0

2b. Reasons for variation from approved cost

Factor	**Increase £m**	**Decrease £m**	**Explanation**
Technical Factors	7	9	Reassessment of work required on Approach A platforms (MPR02: -£1m; MPR03: +£4m). Reassessment of work required on Approach C platforms (MPR02 -£1m; MPR03 +£1m; MPR04 -£3m). Reassessment of risk requirement for Rapier SIFF programme (-£2m). Reassessment of technical content for Tornado F3 (MPR02 -£2m; MPR03 +£2m).
Changed Requirement	23	64	Removal of platforms from SIFF programme: Harrier GR7/T10 (-£22m), Sea Harrier/Harrier T8 (-£21m), Type 92 & Type 93 Radars (-£17m) and Gazelle (RAF) (-£2m). Reduction in quantity of SIFF equipment for HVM Lightweight Multiple Launcher programme (-£2m). Re-introduction of Harrier GR7/T10 requirement as part of the aircraft upgrade to GR9 capability (+£23m).
Contracting Process	11	32	Reduction in costs resulting from the placement of firm price contracts (MPR03 -£22m; MPR04 -£10m). Increase in Approach C costs as a result of contract negotiations (MPR03 +£3m; MPR04 +£8m).
Procurement Strategy		6	Savings realised by aligning SIFF for HVM and Thermal Sighting System for Self Propelled HVM at prime contract level (-£6m).
Accounting Adjustments and Re-definitions	14	14	Difference in variation figures due to revision of Cost of Capital Charge (+£3m). Interest on Capital correction (MPR03 -£1m; MPR04 +£6m). Reduction in VAT rate on SIFF Main programme prime contract (MPR03 -£6m; MPR04 -£1m). Approach C VAT rate assumptions (MPR02: -£6m; MPR03: +£5m).
Risk Differential		14	Difference between the risk allowed for in the most likely (50%) and highest

Factor	Increase £m	Decrease £m	Explanation
			acceptable (90%) estimates at Main Gate (-£14m).
Total	+55	-139	
Net Variation		-84	

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	246

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
***	***	1369	1308

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	36 Sea and Air equipments installed and set to work and supportable.

3b. Performance against approved in-service date

Current forecast ISD	March 2004
Approved ISD at Main Gate	April 2004
Variation (Months)	-1
In-year changes in 2003/2004	0

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Technical Factors	1		Slippage on Main SIFF programme resulting from technical difficulties (+1 month).
Contracting Process		2	Contract negotiations have resulted in timescale savings (-2 months).
Total	+1	-2	
Net Variation		-1	

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	-
Other	-	-	-
Total	-	-	

3e. Operational impact of ISD variation

-

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	A secure and Electronic Counter Measures-resistant IFF system to succeed (with backwards compatibility) Mk XA. The minimum requirement is MK XII Mode 4, in accordance with STANAG 4193.	Yes
2	Continuous unrestricted access for UK military aircraft to current and future (Mode S) civil-controlled airspace in Europe.	Yes
3	On each platform type the SIFF system performance shall be no less than the current installed performance.	Yes
4	The SIFF system shall provide a growth path for the acquisition of IFF Mode 5 capability.	Yes
5	The installed SIFF must exhibit high levels of continuous, full system availability and reliability over extended mission cycles.	Yes
6	The SIFF equipment support solution must provide the optimum through-life sustainment of SIFF capability within the project affordability constraints.	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

In May 1997, Ministers endorsed the SIFF requirement with an indicative fitting plan and approved an Assessment Phase known as the Integration Study and Planning Phase (ISPP), the main part of which began in 1998. The approval noted that an ISD would be proposed as part of the SIFF Main Programme Main Gate Submission. The procurement strategy involved placing contracts with BAE Systems (formerly Marconi Electronic Systems Ltd) and Raytheon Systems Ltd as competing potential SIFF equipment suppliers, covering the majority of platform-types to be fitted with SIFF and from the DAs for the remainder. During ISPP, the Department and Industry worked closely together to refine the SIFF requirement and to produce a low risk solution to the programme, with special emphasis on cost integration, machine-man-interfaces and acceptance into service issues.

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	23	5%
Approved Cost at Initial Gate	27	5%
Variation	-4	

5c. Duration of Assessment Phase

Date of Main Gate Approval	August 2000
Target Date for Main Gate Approval at Initial Gate	April 1999
Variation (Months)	+16

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	534	548
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	586	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	-	April 2004	-
Forecast ISD at Initial Gate*	-	-	-

* An ISD was not included in the Initial Gate approval in which it was noted that an ISD would be proposed as part of the SIFF Main Programme Main Gate Business Case.

POST MAIN GATE PROJECT SUMMARY SHEET

SUPPORT VEHICLE

Integrated Project Team Responsible:
General Support Vehicles

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Support Vehicle project is a tri-service procurement of cargo and recovery vehicles and recovery trailers which will enhance the carriage and distribution of a variety of military loads and the recovery of both wheeled and tracked vehicle casualties in varying operational environments. The new vehicles will replace the current fleet of 4, 8 and 14 tonne cargo vehicles, three types of recovery vehicle and a recovery trailer. These vehicles are approaching the end of their planned lives and fail to satisfy current and future requirements in terms of agility, mobility and load carrying capability and some aspects of current UK and EU vehicle legislation.

A decision was taken in March 2001 to proceed with a conventional procurement instead of a Private Finance Initiative (PFI), by-pass the Assessment Phase and move directly to the main investment decision. In September 2001, approval was given to undertake an international competition to select a prime contractor for the demonstration and manufacture contract, together with a through-life support package. An Invitation To Tender was issued to industry in January 2002 and bids were received in June 2002. Responses to a second round of bidding were received in January 2003. Responses to a third round of bidding were received in September 2003 addressing a change in the Fielding Plan. Evaluation of the proposals was completed in December 2003 allowing the decision making process to proceed for the preferred bidder(s) and subsequent approval.

1b. Associated projects

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

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
Bidders are: MAN ERF, Daimler Chrysler UK Ltd, Oshkosh Truck Corporation, Stewart and Stevenson TVS UK Ltd	Demonstration, Manufacture and In-service support for 20 years	Firm price for first five years and 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	***
Approved Cost at Main Gate	1641
Variation	***
In-year changes in 2003/2004	***

2b. Reasons for variation from approved cost

Factor	Increase £m	Decrease £m	Explanation
Changed Requirement	***		***
Changed Budgetary Priorities	***	***	***
Accounting Adjustments and Re-definitions	***	***	***
Risk Differential	***	***	***
Total	***	***	
Net Variation		***	

2c. Expenditure to date

Expenditure to 31 March 2003 (£m)	2

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 389 Recovery 69 Trailers	8,231 Cargo 314 Recovery 69 Trailers

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	Achievement of an operational capability with 161 Cargo vehicles and 8 Recovery vehicles and 2 Recovery trailers with the appropriate supporting through-life support package.

3b. Performance against approved in-service date

Current forecast ISD	February 2008
Approved ISD at Main Gate	April 2006
Variation (Months)	+22
In-year changes in 2003/2004	+10

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Technical Factors	2		Increased time given to all bidders to finalise their technical solution (+1month). Time added to review the technical solutions against the requirement to establish possible trade-offs in performance. Included in this review was the need to revise the support strategy so that it is achievable within the approval (+1month).
Contracting Process	17		A 2nd round of tendering undertaken to address commercial risks, cost, performance and any time efficiencies that could be introduced to maintain the approved boundaries (+2 months). Time added to allow the bidders to prepare their responses for the 2nd round and to evaluate responses (+5 months). A 3rd

Factor	Increase (months)	Decrease (months)	Explanation
			round of bidding has been necessary to respond to a change in the Fielding Plan (as a result of a planning measure to change ISD and the vehicle production period) (+5 months). Additional time estimated to close contract for split bid options (between Cargo and Recovery) with different bidders (+5 months).
Change in Budgetary Priorities	10		A planning measure was introduced to reduce the Recovery quantities to 314 and move the first deliveries of Recovery to February 2008 (+10 months).
Risk Differential		7	Difference between the risk allowed for in the most likely (50%) and the highest acceptable (90%) estimates at Main Gate (-7 months).
Total	+29	-7	
Net Variation	+22		

3d. Cost resulting from ISD variation

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

3e. Operational impact of ISD variation

The delayed In-Service Date may require extension to the in-service life of the existing cargo and recovery fleet. The impact will be an increase in planned in-service support costs and an inability to provide the required levels of capability for payload and mobility.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently Forecast to Be met * (Yes or No)
	Support Vehicles (Cargo & Recovery)	
1	The Support Vehicle Recovery and Support Vehicle Cargo shall be capable of meeting the Defence Planning Assumptions.	No
2	Capable of operating in world-wide climatic conditions.	No
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
	Support Vehicles (Cargo only)	Yes
6	Capable of completing required Battlefield Mission	Yes
7	Deployable in its operational state by air	Yes
8	Capable of strategic deployment by sea	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.	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	87%
	Change since previous MPR	Not previously declared.

4b. Reasons for variation against approved key requirements

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

* The preferred bidder for the Support Vehicle programme has yet to be selected. When a bidder has been selected it will become clear the degree to which each KUR will be satisfied.

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

The Support Vehicle programme has 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 5 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 the PFI approach 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 with FWRV programmes were merged into a single procurement and proceeded directly to the main investment decision which was secured in September 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. The time and cost boundaries were set at Main Gate and, following an advertisement placed in the MOD Contracts Bulletin, a short-list of 6 potential 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	September 2001
Target Date for Main Gate Approval at Initial Gate	-
Variation (Months)	-

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	***	***	***
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	-	-

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

	Earliest	**Most Likely**	**Latest Acceptable**
Forecast ISD at Main Gate	November 2004	September 2005	April 2006
Forecast ISD at Initial Gate+	-	-	-

+ An ISD was not included in the Initial Gate Approval as it was not sought and thus the ISD was proposed in the Support Vehicle Main Gate Business Case

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POST MAIN GATE PROJECT SUMMARY SHEET

TYPE 45 DESTROYER

Integrated Project Team Responsible:
Type 45 Destroyer

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

The Type 45 is a new class of up to twelve* 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. Procurement of a further three Type 45s was approved and a contract was placed with the Prime Contractor in February 2002. The ships are being built under sub-contract by BAE Systems Naval Ships and Vosper Thornycroft Shipbuilding.

Recent achievements include: the opening of the Maritime Integration Support Centre at Portsdown (which will support the integration of the ship's combat system); letting of the tri-national contract for procurement of the missile systems for ships two to six; formal agreement and contract action for the procurement of the PAAMS main missile buy through OCCAR (Organisation Conjointe de Coopération en Matière d'Armement); the first factory transmission of the PAAMS multi-function radar; factory acceptance of the first two Rolls Royce WR21 gas turbines and the start of main manufacture (against a mature design) on the First of Class, HMS Daring. Main manufacture of the second ship (HMS Dauntless) is planned to begin in the summer of 2004.

1b. Associated projects

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

* The Type 45 is a planned class of up to 12 ships. Approval has, so far, only been given for 6 ships. It is on the Approval of 6 ships that the Major Project Report is presented.

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
BAE Systems Electronics Prime Contractor	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	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	***
Approved Cost at Main Gate	5475
Variation	***
In-year changes in 2003/2004	***

2b. Reasons for variation from approved cost

Factor	Increase £m	Decrease £m	Explanation
Technical Factors	36		Issues arising from migrating from Skynet 4 to Skynet 5 and to implement communications system growth (+£3m). Increase in Cost of Capital resulting from ISD slippage (+£33m).
Changed Budgetary Priorities	268	238	A combination of Equipment Plan Options plus internal adjustments, and Interest On 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). IAP re-profiling and IAP upgrade deleted (-£238m).
Exchange Rate	47		Sterling to Euros rate worse than originally forecast (+£47m).
Contracting Process	***		Higher than expected costs for PAAMS Production Equipment (+£124m).

Factor	Increase £m	Decrease £m	Explanation
			Corrections to Warship costs (+£13m). *** Corrections and adjustments to forecast costs (+£97m). Correction to understatement of PAAMS costs in MPR03 (+£173m). Increase in Cost of Capital due to corrections to PAAMS (+£82m), increased cost to batch two (+£52m).
Accounting Adjustments and Re-definitions		24	Difference in variation figures due to revision of Cost of Capital Charge (-£24m).
Risk Differential	31	506	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-£506m). Variation due to revised approval figures (+£31m).
Total	***	-768	
Net Variation	***		

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	1495

2d. Years of peak procurement expenditure

2005/2006	2006/2007

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
582.0	576.7	6	6

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

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

3b. Performance against approved in-service date

Current forecast ISD	May 2009
Approved ISD at Main Gate	November 2007
Variation (Months)	+18
In-year changes in 2003/2004	+18

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Procurement Strategy	+24		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 the setting up of the correct industrial arrangements to manage the programme and the availability of design data on both WR21 and PAAMS (MPR02 +6 months; MPR04 +18 months).
Risk Differential		-6	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-6 months).
Total	+24	-6	
Net Variation	+18		

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	196		Additional Type 42 run-on costs due to T45 slippage (+£196m).
Other	-	-	-
Total	+196		

3e. Operational impact of ISD variation

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

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	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
2	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
3	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
4	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
5	Embarked Military Force. The T45 shall be able to operate an Embarked Military Force of at least 30 deployable troops.	Yes
6	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
7	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
8	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
9	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%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

*Values are classified

† Values are classified

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 UK) 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	228	3.8%
Approved Cost at Initial Gate	213	3.7%
Variation	+15	

5c. Duration of Assessment Phase

Date of Main Gate Approval	July 2000
Target Date for Main Gate Approval at Initial Gate	-
Variation (Months)	-

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	5000	5475
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	7689	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	-	May 2007	November 2007
Forecast ISD at Initial Gate	-	December 2002	-

* 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.

† Cost of Demonstration and Manufacture at Initial Gate was based on 12 ships. Main gate approval is for 6 ships and the difference relates to this.

POST MAIN GATE PROJECT SUMMARY SHEET

TYPHOON

Integrated Project Team Responsible:
Typhoon

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

Typhoon, formerly Eurofighter, is an agile fighter aircraft. Air superiority is the primary design driver, but the aircraft will also have an air-to-ground capability. Typhoon will thus have the flexibility to respond to the uncertain demands of the current strategic environment, and will enable the RAF to replace the Tornado F3 and Jaguar aircraft. It is being developed in a collaborative project with Germany, Italy and Spain, and is managed on behalf of the nations by the NATO Eurofighter and Tornado Management Agency (NETMA).

The contracts for the first tranche of 148 aircraft, of which 55 valued at some £2.5bn are for the UK, were signed on 18 September 1998. The second Tranche comprising 236 aircraft, 89 of which are for the UK, is expected to be ordered in 2004.

The ISD of June 2003, forecast in MPR03, was achieved. The RAF is taking delivery of aircraft and is conducting operational evaluation flying. This is progressing well after an initial delay caused by some problems with the first production standard aircraft. As a consequence of the delay the beneficial use date has been delayed by 9 months and additional Interest on Capital (IoC) charge of £132m has been incurred. This increase is partly offset at a Departmental Level by a decrease in the Interest on Capital paid by the Front Line Command.

A number of potential export customers have been identified and the Department (in conjunction with the partner nations and industry) is pursuing active export campaigns in Europe and the Far East. A contract for 18 aircraft and their support was signed by Austria in the summer of 2003.

1b. Associated projects

Critical to Achievement of ISD		Critical to Meet 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) Eurojet Turbo GmbH Engine consortium comprising: FIAT ITP, MTU, Rolls Royce	Development	Fixed Price for Airframe and equipments and Target Cost Incentive Arrangement for Aircraft Equipment Integration Fixed Price	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 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 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 prices for Tranche 1 Engine Production Investment and Production	Non-competitive but with International sub-contract competitive elements, the value of which amounts to some 10% of the overall value of the Prime Contract

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	**Procurement Cost**
Current Forecast Cost	19014
Approved Cost at Main Gate	16671
Variation	+2343
In-year changes in 2003/2004	+130

2b. Reasons for variation from approved cost

Factor	**Increase £m**	**Decrease £m**	**Explanation**
Technical Factors	1551	45	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 Interest on Capital (IoC) 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 IoC (-£45m). 9-month deferral of beneficial use date (+£132m IoC).
Changed Requirement	361	71	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 (TIALD)) (+£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).
Changed Budgetary Priorities		13	Reprofiling of expenditure, reducing asset balances and thereby reducing IoC (-£5m). Transfers to other budgets (-£8m).
Inflation	205	308	Changes in inflation assumptions since approval: development (+£205m) and production (-£308m).

Factor	Increase £m	Decrease £m	Explanation
Exchange Rate		114	Changes in exchange rate assumptions since approval (-£114m).
Contracting Process	113	165	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).
Procurement Strategy	413		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).
Accounting Adjustments and Re-definitions	726	310	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 IoC 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 IoC on development expenditure (+£222m). Difference in variation figures due to revision of Interest on Capital (-£92m).
Total	+3369	-1026	
Net Variation	+2343		

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	8574

2d. Years of peak procurement expenditure

2004/2005	2007/2008

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
At Main Gate	Current	at Main Gate	Current
-	49.1	232	232

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

Current forecast ISD	June 2003
Approved ISD at Main Gate	December 1998
Variation (Months)	+54
In-year changes in 2003/2004	0

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Technical Factors	32		Resulting from the application of complex technologies required to enable the equipment to meet the original Staff Requirement (+32 months).
Procurement Strategy	22		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).
Total	+54		
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 of Eurofighter 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

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	Take off Distance	Yes
2	Landing Distance	No
3	Attributable Failures per 1000 Flying Hours	Yes
4	Life (Flying Hours)	Yes
5	Sustained Minimum Turn Radii at Sea Level, Max Reheat	Yes
6	Maximum speed at sea level	Yes
7	Maximum speed at 36,000 ft	Yes
8	Acceleration Time at Sea level from 200 knots to Mach 0.9	Yes
9	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%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
2. Landing Distance	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	0.4%
Variation	-9	

5c. Duration of Assessment Phase

Date of Main Gate Approval	November 1987
Target Date for Main Gate Approval at Initial Gate	-
Variation (Months)	-

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate	-	16671	-
Cost of Demonstration and Manufacture Phase forecast at Initial Gate	-	-	-

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	-	December 1998	-
Forecast ISD at Initial Gate	-	-	-

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POST MAIN GATE PROJECT SUMMARY SHEET

TYPHOON AIRCREW SYNTHETIC TRAINING AIDS (ASTA)

Integrated Project Team Responsible:
Typhoon

SECTION 1: ABOUT THE PROJECT

1a. Project description, progress and key future events

Aircrew Synthetic Training Aids (ASTA) will provide a ground-based synthetic aircrew training capability that is essential to supplement aircraft-based training for the Typhoon fleet. ASTA comprises two training devices: a Full Mission Simulator (FMS) and a Cockpit Trainer (CT). The FMS will provide immersive pilot training in a high-resolution visual environment and replicate sensor performance against interactive threats. The CT will primarily be used to introduce pilots to the cockpit environment and associated procedures. It will be possible to network CTs to FMSs in order that trainees can be immersed in essential distributed mission training.

ASTA is being procured in collaboration with Germany, Italy and Spain. A single source contract was placed on behalf of the 4 Nations by NATO Eurofighter & Tornado Management Agency (NETMA) with Eurofighter GmbH who have subcontracted a joint venture company, Eurofighter Simulation Systems GmbH, representing the simulation industry from the 4 nations. For the UK, it is planned to procure ASTA in 3 Tranches covering provision for RAF Coningsby, RAF Leeming and RAF Leuchars. Main Gate approval covers the first (Coningsby) Tranche only. RAF Leeming and RAF Leuchars are expected to enter into service during the period 2008 to 2010. The programme is currently in the Demonstration and Manufacture stage. Construction of the first Typhoon Training Facility (TTF) at RAF Coningsby was completed, on schedule, in mid 2003. This will house the first ASTA training devices together with ground support equipment training systems.

Technical difficulties have been experienced with the integration of some sub systems which has resulted in a delay in delivering assets to the front line command. This delay has incurred additional Interest on Capital (IoC) charges of £3m although this is partially offset at a departmental level by a reduction in the IoC charged to the front line command.

1b. Associated projects

Critical to Achievement of ISD		**Critical to Meet Initial Gate Requirement**	
Project Title	Forecast ISD	Project Title	Forecast ISD
Typhoon	2003	-	-

1c. Procurement strategy

Contractor(s)	Contract Scope	Contract Type	Procurement Route
EF GMbH	Demonstration & Manufacture	Fixed Price subject to Escalation*	Collaborative

SECTION 2: PROJECT COSTS

2a. Performance against approved cost

£m (outturn prices)	Procurement Cost
Current Forecast Cost	207
Approved Cost at Main Gate	208
Variation	-1
In-year changes in 2003/2004	+2

2b. Reasons for variation from approved cost

Factor	Increase £m	Decrease £m	Explanation
Contracting Process	25	5	Difference between contract milestones estimated at Main Gate and actual milestones resulting in an increase in development costs (+£25m) and a decrease in production costs (-£5m).
Technical Factors	2		Increase in Interest on Capital due to revised deliveries profile (+£2m).
Risk Differential		23	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-£23m).
Total	+27	-28	
Net Variation		-1	

2c. Expenditure to date

Expenditure to 31 March 2004 (£m)	170

2d. Years of peak procurement expenditure

2002/2003	2003/2004

2e. Unit production cost

Unit Production Cost (£m)		Quantities Required	
at Main Gate	Current	at Main Gate	Current
78.6	66.5	1	1

* 'Fixed Price' is the UK MoD contract type definition and is identical to the NETMA 'Firm Price' definition reported in MPR 2002.

SECTION 3: PROJECT TIMESCALE

3a. Definition of in-service date

ISD Definition:	A Cockpit Trainer will provide the initial training capability at RAF Coningsby.

3b. Performance against approved in-service date

Current forecast ISD	May 2005
Approved ISD at Main Gate	September 2004
Variation (Months)	+8
In-year changes in 2003/2004	+11

3c. Reasons for variation from approved ISD

Factor	Increase (months)	Decrease (months)	Explanation
Technical difficulties	11		Industry has encountered technical difficulties in the Integration of sub-systems, which has prolonged the process. Another significant reason is that Industry severely underestimated the time to complete the formal acceptance process. Work is ongoing to determine the robustness and credibility of the Industry schedule which supports revised 3 point estimates. The revised increase of 11 months is provisional (+11 months).
Risk Differential		3	Difference between the risk allowed for in the most likely (50%) and highest acceptable (90%) estimates at Main Gate (-3 months).
Total	+11	-3	
Net Variation	+8		

3d. Cost resulting from ISD variation

Type of Cost/Saving	Cost £m	Saving £m	Explanation
Support costs of current equipment	-	-	Delay of the ASTA ISD does not impact operational training for Typhoon or other aircraft systems.
Other	-	-	-
Total	-	-	

3e. Operational impact of ISD variation

ASTA is key to the training of pilots for operation of the Typhoon aircraft. The recent slippage of 11 months in the ISD does not hazard the training programme due to re-alignment of the aircraft programme. However, mitigation actions are in hand should there be any further significant slippage of the ASTA ISD.

SECTION 4: KEY USER REQUIREMENTS

4a. Performance against approved key user requirements

Serial	Key Requirement	Currently forecast to be met (Yes or No)
1	ASTA shall be capable of supporting the full range of recognised Typhoon training.	Yes
2	ASTA shall permit efficient training to Typhoon pilots based at UK Main Operating Bases (MOBs)	Yes
3	ASTA shall facilitate Mission Rehearsal/Practice and enable aircrew to maintain currency of their flying skills whilst deployed on operations outside of the UK. This will ensure that aircrew do not have to regularly return to the UK for training.	Yes
4	ASTA is to be available to meet full synthetic training syllabus of each MOB.	Yes
5	ASTA is required to be subject to upgrade concurrent with upgrades to the Weapon System (WS) so that Typhoon and ASTA functionality remains harmonised.	Yes
	Percentage currently forecast to be met	100%
	Change since previous MPR	None

4b. Reasons for variation against approved key requirements

Key Requirement	Factor	Explanation
-	-	-

SECTION 5: HISTORY UP TO MAIN GATE APPROVAL

5a. Description of the Assessment Phase

Initial approval of the ASTA requirement, to fund preparation work and allow Industry to inform an Invitation to Tender (ITT), was obtained in January 1995 as part of the approval for the EF2000 development phase re-orientation. In May 1996, following a Combined Operational Effectiveness and Investment Appraisal (COEIA), the Department obtained Equipment Approvals Committee (EAC) approval to release the ITT to industry.

The Department initially sought to satisfy the full ASTA requirement through a collaborative programme based on a single contract placed by NATO Eurofighter & Tornado Management Agency (NETMA). Due to the complexities of the international collaborative proposal, the Department decided to investigate a national Private Finance Initiative (PFI) solution. After full consideration, a collaborative approach was deemed to represent the lowest risk option to the Typhoon programme as a whole. This approach was endorsed by the EAC in October 2000, when approval was granted for ASTA demonstration and first Tranche manufacture (Main Gate).

5b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost	Proportion of total estimated procurement expenditure
Actual Cost	3.8	1.8 %
Approved Cost at Initial Gate	2.9	1.4 %
Variation	+0.9	

5c. Duration of Assessment Phase

Date of Main Gate Approval	October 2000
Target Date for Main Gate Approval at Initial Gate	December 1995
Variation (Months)	+58

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

£m (outturn prices)	Lowest	Most Likely	Highest
Cost of Demonstration and Manufacture Phase forecast at Main Gate *	-	185	208
Cost of Demonstration and Manufacture Phase forecast at Initial Gate +	298	307	344

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

	Earliest	Most Likely	Latest Acceptable
Forecast ISD at Main Gate	-	June 2004	September 2004
Forecast ISD at Initial Gate	-	September 2001	-

Costs shown are the approved costs at Main Gate for procuring the first Tranche of the ASTA programme.

+Costs shown are the noted costs at Initial Gate for procuring all three Tranches of the ASTA programme

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PRE-MAIN GATE PROJECT SUMMARY SHEET

BATTLEFIELD LIGHT UTILITY HELICOPTER (BLUH)

Integrated Project Team Responsible:
Lynx

SECTION 1: ABOUT THE REQUIREMENT

The Battlefield Light Utility Helicopter (BLUH) is required to support Air Manoeuvre, Littoral (sea to shore) Manoeuvre, and Special Forces operations within the Joint Task Force. Within Air and Littoral Manoeuvre, BLUH may be required to operate as an integrated system in conjunction with Attack Helicopter (AH). BLUH is also required to provide autonomous capabilities in support of all Ground Manoeuvre forces outside the AH operational ambit. BLUH capability will include Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR), direction of fire, mobility support, assistance in command and control, and casualty evacuation. BLUH seeks to supersede the capability currently provided by 45 Gazelle AH 1 and 124 Lynx Mk 7 and Mk 9. Gazelle will remain in service in some non-battlefield roles. Lynx Mk7, and to a lesser extent Mk9, are coming to the end of their fatigue life and require replacement within the next few years to ensure the continued delivery of this capability. An option was taken in April 2002 to reduce BLUH numbers from 102 to 85.

BLUH is closely linked with the planned Surface Combatant Maritime Rotorcraft (SCMR).

SECTION 2: THE ASSESSMENT PHASE

2a. Description of the Assessment Phase

Initial Gate (IG) approval for BLUH was given in December 2001.

Although subject to separate IG approvals, the BLUH and SCMR AP programmes are running jointly with a single tender solution for Westland Helicopters Ltd (WHL) to develop and de-risk its Future Lynx (FLynx) proposal. Analysis undertaken for the BLUH IG Business Case showed that there was little to discriminate between single tender and competitive strategies for this requirement, but that single tender offered a faster and lower risk route to provide the capability within the required timescale.

The capability offered by FLynx is being rigorously assessed against the requirement for both BLUH and SCMR with an emphasis on maintaining commonality between the two aircraft where this offers best value. Independent product benchmarking is assessing the value for money of the FLynx compared with the AB139, NH90, UH-60M and EC655 helicopters.

The current forecast date for approval of the joint BLUH and SCMR Main Gate Business Case is December 2004, but this is dependent on the speed of progress with a review of the requirement.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost
Forecast Cost	44
Approved Cost at Initial Gate	44
Variation	0

2c. Duration of Assessment Phase

Current forecast date of Main Gate Approval	December 2004
Target date for Main Gate Approval	December 2003
Variation (Months)	+12

2d. Boundaries of future Demonstration and Manufacture phase costs

£m (outturn prices)	Lowest	Most Likely	Maximum	Range
Current forecast cost of Demonstration and Manufacture phase	881	969	1028	147
Forecast cost of Demonstration and Manufacture phase at Initial Gate	-	929	1133	-
% Change	-	-	-	-

2e. Boundaries of future project in-service dates

	Earliest	Most Likely	Latest	Range
Current forecast ISD	February 2008	May 2008	October 2008	8 months
Forecast ISD at Initial Gate	-	-	September 2006	-
% Change	-	-	+76%	-

PRE-MAIN GATE PROJECT SUMMARY SHEET

FALCON

Integrated Project Team Responsible:
Theatre and Formation Communication Systems

SECTION 1: ABOUT THE REQUIREMENT

FALCON will provide a tactical formation level secure communication system for the UK and the Allied Command (Europe) Rapid Reaction Corps (ARRC) and will replace current communication systems Ptarmigan, Euromux RAF Transportable Telecommunications System and Deployed Local Area Network.

Falcon will enable the High Readiness Forces (LAND) units able to be deployed rapidly to areas of crisis to remain as a pivotal member of the ARRC. It will provide the comprehensive and effective communications systems that are required at all levels of command and will operate in conjunction with systems such as Bowman, Cormorant, Skynet 5 and other communications and information systems. It will not duplicate the capability of these systems, but will be the high capacity system that binds together tactical communications in a theatre of operation as an integral part of the plans for Networked Enabled Capability. The system will be modular and upgradeable incorporating many off the shelf technologies to ease the management of obsolescence.

Falcon will require significantly less manpower to operate and will help alleviate shortfalls in manning, particularly in Royal Signals trade group.

SECTION 2: THE ASSESSMENT PHASE

FALCON has an incremental acquisition strategy, with four increments proposed:
— Increment A: Providing to the ARRC
— Increment B: Providing to UK divisions and Brigades under armour.
— Increment C: Providing to RAF deployed operational bases
— Increment D: Providing for littoral warfare and deep support including higher mobility.

Currently only Increment A has gained Initial Gate approval which was given in July 2002. Two options were considered:
— Buy off the shelf technology (Bowman & Cormorant). This option was assessed in house.
— Buy new Falcon. Four companies bid for the Assessment Phase (AP) prime contract. Marconi Selenia and BAE were selected for the 15 month AP contract and to compete for the Demonstration and Manufacture (D&M) Phase prime contract.

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 Costs were refined during the AP. Bidders' proposals for the D&M phase were submitted on 31 March 2004 and are being assessed.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost
Forecast Cost	26
Approved Cost at Initial Gate	30
Variation	-4

2c. Duration of Assessment Phase

Current forecast date of Main Gate Approval	November 2004
Target date for Main Gate Approval	July 2004
Variation (Months)	+4

2d. Boundaries of future Demonstration and Manufacture phase costs.

	Lowest	Most Likely	Maximum	Range
Current forecast cost of Demonstration and Manufacture phase	205	212	255	50
Forecast cost of Demonstration and Manufacture phase at Initial Gate	205	212	255	50
% Change	0%	0%	0%	0%

2e. Boundaries of future project in-service dates

	Earliest	Most Likely	Latest	Range
Current forecast ISD	June 2007	December 2007	December 2008	18 Months
Forecast ISD at Initial Gate	June 2006	December 2006	December 2007	18 Months
% Change	41%	41%	41%	0

PRE-MAIN GATE PROJECT SUMMARY SHEET

FUTURE AIRCRAFT CARRIER (CVF)

Integrated Project Team Responsible:
Future Aircraft Carrier

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 UK requirements. It was therefore decided to replace the Invincible Class with two larger and more capable aircraft carriers able to operate up to 50 aircraft, both fixed-wing and helicopters. CVF's offensive air power will be provided primarily by the Future Joint Combat Aircraft (JCA). The Carrier Air Group will also operate the Maritime Airborne Surveillance and Control (MASC) system together with helicopters from all three Services in a variety of roles that could include anti-submarine/anti-surface warfare, attack and support.

SECTION 2: THE ASSESSMENT PHASE

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 US 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 members 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. The cost of the Assessment Phase has increased as a result of the revised procurement strategy and renegotiations to the Stage 3 contracts that were placed with the two companies.

At Initial Gate, the cost baseline for the CVF Demonstration and Manufacture Phase was based on a Short Take Off & Vertical Landing (STOVL) Carrier. As a result of Minister (DP)'s announcement on 30 September 2002, the baseline was changed to a Carrier Variant (CV) based Adaptable Carrier design for the operation of STOVL JSF and rotary wing aircraft for MASC.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost
Forecast Cost	169
Approved Cost at Initial Gate	118
Variation	+51

2c. Duration of Assessment Phase

Current forecast date of Main Gate Approval	December 2004
Target date for Main Gate Approval	December 2003
Variation (Months)	+12

2d. Boundaries of future Demonstration and Manufacture phase costs

£m (outturn prices)	Lowest	Most Likely	Maximum	Range
Current forecast cost of Demonstration and Manufacture phase	***	***	***	***
Forecast cost of Demonstration and Manufacture phase at Initial Gate	2509	2877	3174	665
% Change	***	***	***	***

2e. Boundaries of future project in-service dates

	Earliest	Most Likely	Latest	Range
Current forecast ISD	***	***	***	***
Forecast ISD at Initial Gate	-	August 2012*	-	-
% Change	-	***	-	-

* Forecast ISD at Initial Gate has been reclassified to After (Oct 2012) rather than Before (Aug 2012) Operational Sea Training to reflect delivery of the full carrier capability.

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PRE-MAIN GATE PROJECT SUMMARY SHEET

FUTURE INTEGRATED SOLDIER TECHNOLOGY (FIST)

Integrated Project Team Responsible:
Dismounted Close Combat

SECTION 1: ABOUT THE REQUIREMENT

The Future Integrated Soldier Technology (FIST) programme will integrate key technologies that British soldiers will need to have access to in order to maintain their place among the world's best. The programme aims to provide the future soldier with equipment that maximises effectiveness, while reducing physical and psychological load, the effects of combat stress and the opportunities for human error.

Historically, soldiers have been equipped in a piecemeal manner. FIST will consider the individual as a system, and the eight-man section as the platform. This system of systems approach, demonstrated successfully during the Concept Phase, will fundamentally improve the capabilities of those committed to dismounted close combat by providing 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

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 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 was expected to take 32 months leading to a main investment decision in 2006, for which competition remains an option. However, current operational tempo has meant that trials planned for summer 2004 may need to be delayed until later in the year. This is likely to result in a slippage of at least three months to Main Gate approval, but it may be possible to avoid a concomitant delay to the current forecast in-service date. This is under review.

The FIST programme now incorporates elements of the CRUSADER 21 project, covering the enhancement of head protection, body armour and load carriage. FIST will also now be provided only for those Regular soldiers most likely to be deployed on operations.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost
Forecast Cost	26
Approved Cost at Initial Gate	26
Variation	0

2c. Duration of Assessment Phase

Current forecast date of Main Gate Approval	November 2006
Target date for Main Gate Approval	September 2006
Variation (Months)	+2

2d. Boundaries of future Demonstration and Manufacture phase costs

£m (outturn prices)	Lowest	Most Likely	Maximum	Range
Current forecast cost of Demonstration and Manufacture phase	387	583	814	427
Forecast cost of Demonstration and Manufacture phase at Initial Gate	433	660	926	493
% Change	-11%	-12%	-12%	-13%

2e. Boundaries of future project in-service dates

	Earliest	Most Likely	Latest	Range
Current forecast ISD	June 2009	August 2009	November 2010	17 months
Forecast ISD at Initial Gate	April 2009	July 2009	September 2009	5 months
% Change	+6%	+3%	+39%	+240%

PRE-MAIN GATE PROJECT SUMMARY SHEET

FUTURE STRATEGIC TANKER AIRCRAFT (FSTA)

Picture not available

Integrated Project Team Responsible:
Future Strategic Tanker Aircraft

SECTION 1: ABOUT THE REQUIREMENT

The Future Strategic Tanker Aircraft (FSTA) is planned to replace the air refuelling (AR) and some elements of air transport (AT) capability currently provided by the RAF's fleet of VC10 and TriStar aircraft. AR 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

2a. Description of the Assessment Phase

FSTA was nominated as a potential Private Finance Initiative (PFI) project in 1997 when it was judged that the project could offer better value for money scoped as a service rather than an asset procurement, through the transfer of the risks of ownership to the private sector. Early work included a period of market building and Request for Information (RFI) and Invitation to Submit Outline Proposals (ISOP) phases.

Following Initial Gate approval in December 2000, the project launched a formal Assessment Phase designed to confirm whether PFI would offer best value for money. The Assessment Phase is intended to confirm industry's ability to meet the service requirement, confirm programme timescales and costs, establish the optimum call-off times and readiness levels, determine whether the inclusion of Air Transport capability in the contract will provide value for money and clarify manning requirements and personnel implications.

Final bids were received from 2 PFI consortia in April 2003. Following evaluation of the bids and a Revise or Confirm process, the Department announced on 26 January 2004 that it would take forward final PFI negotiations with AirTanker Ltd, a consortium comprising EADS, Rolls Royce, Cobham and Thales. However, a number of complex issues remain to be resolved. Consequently, a Main Gate decision on whether to proceed with a PFI contract has been deferred until after the negotiations have been completed. The programme remains in the Assessment Phase.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost
Forecast Cost	24
Approved Cost at Initial Gate	13
Variation	+11

2c. Duration of Assessment Phase

Current forecast date of Main Gate Approval	September 2005
Target date for Main Gate Approval	January 2002
Variation (Months)	+44

2d. Boundaries of future PFI programme costs

£m (outturn prices)	Lowest	Most Likely	Maximum	Range
Current forecast cost of PFI programme	11300	12300	13100	1800
Forecast cost of PFI programme at Initial Gate	-	12400	13900	1500
% Change	-	-1%	-6%	-

2e. Boundaries of future project in-service dates

	Earliest	Most Likely	Latest	Range
Current forecast ISD	June 2011	November 2011	February 2013	20
Forecast ISD at Initial Gate	January 2007	-	January 2009	24
% Change	88%	-	58%	-

PRE-MAIN GATE PROJECT SUMMARY SHEET

GROUND BASED AIR DEFENCE

Picture not available

Integrated Project Team Responsible:
Ground Based Air Defence (GBAD)

SECTION 1: ABOUT THE REQUIREMENT

The objective of the Ground Based Air Defence (GBAD) Programme is to improve the UK's Air Defence Capability over the period 2010 to 2020 and beyond. GBAD is to be managed in two phases. Phase 1 will integrate the current in-service GBAD Weapons Systems (High Velocity Missile and Rapier Field Standard C) with an overarching Air Defence Command, Control, Communications, Computing and Intelligence (ADC4I) system in the 2008-2012 timeframe, and will update the Weapon Systems to meet the current threat. (The potential for wider low-level air battle space management inherent in such a system design will also be considered.) Phase 2 will replace the existing GBAD Weapon Systems as they reach the end of their service life around 2020. GBAD will be key to providing continuous protection to heavy, medium and light forces against low-level air threats, particularly Attack Helicopters, Tactical Unmanned Air Vehicles and Cruise Missiles. The system will provide 24 hour, all-weather protection, across the full spectrum of operational scenarios (particularly important during the deployment phase), and will be complementary to Air-Delivered Air Defence.

The forecast expenditure for GBAD Phase 1 Demonstration and Manufacture has been reviewed since Initial Gate and existing funding for obsolescence, previously presented separately to Phase 1 acquisition costs, is now included as part of the Phase 1 update of the Weapon Systems. The overall finance provision for GBAD has not, however, increased.

SECTION 2: THE ASSESSMENT PHASE

2a. Description of the Assessment Phase

Phase 1 of the GBAD project received Ministerial Initial Gate approval in January 2002. The Assessment Phase will concentrate on enhancing the Situational Awareness (SA) of our legacy weapon systems by networking their organic sensors and providing connectivity to NATO Link systems. In addition, limited legacy weapon system improvements will be evaluated as will wider battle space management implications of improvements to air-related SA at all levels in the command chain. Phase 1 principally comprises the incremental acquisition of an ADC4I system through industrial competition, based largely upon a Military Off The Shelf solution. Two Contractors, Lockheed Martin and EADS, have been contracted to demonstrate their ADC4I solution. In addition, they will need to demonstrate the growth potential of their solutions to accommodate the additional functionality provided by such capabilities as Electronic Support Measure and Non Co-operative Target Recognition and also subsequent migration to Phase 2.

Following the annual review of the defence programme and an examination of relative priorities, the GBAD Assessment Phase contracts and spend profile were re-orientated and extended from 24 to 40 months. This change, and earlier difficulties associated with the tender responses and down-selection announcement, led to the overall length of the Assessment Phase increasing.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost
Forecast Cost	151
Approved Cost at Initial Gate	144
Variation	+7

2c. Duration of Assessment Phase

Current forecast date of Main Gate Approval	February 2008
Target date for Main Gate Approval	March 2006
Variation (Months)	+23

2d. Boundaries of future Demonstration and Manufacture phase costs

£m (outturn prices)	Lowest	Most Likely	Maximum	Range
Current forecast cost of Demonstration and Manufacture phase	1289	1553	1856	567
Forecast cost of Demonstration and Manufacture phase at Initial Gate	872	1054	1271	399
% Change	+48%	+47%	+46%	+42%

2e. Boundaries of future project in-service dates

	Earliest	Most Likely	Latest	Range
Current forecast ISD	August 2011	August 2012	December 2013	28 months
Forecast ISD at Initial Gate	January 2009	December 2009	December 2010	23 months
% Change	+66%	+62%	+63%	+22%

PRE-MAIN GATE PROJECT SUMMARY SHEET

INDIRECT FIRE PRECISION ATTACK (IFPA)

Picture not available

Integrated Project Team Responsible:
Future Artillery Weapons Systems

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 100 kilometres by 2010.

The capability required under IFPA will be delivered via a structured programme of assessment, demonstration, and manufacture phases, which will continue after the project's Main Gate, via a series of 'mini-gate' approvals. The mix of munitions procured under the programme will have a range of In Service Dates, commencing in 2008, and extending out to 2017.

The Assessment Phase will recommend how the requirement can best be met. This will recommend the procurement of a mixture of guided rockets, artillery shells, and other precision munitions, using a variety of different payloads, to engage both 'soft' and 'hard' military targets. IFPA munitions will be used by the in service Multiple Launch Rocket System (MLRS), the AS90 self-propelled howitzer, and the Lightweight Mobile Artillery Weapon System (LIMAWS) Rocket Launcher and Gun. No new platforms are currently planned to be developed under IFPA.

The demonstration and manufacture phases of the programme were reviewed during the Equipment Plan 2003 and later years' funding for these elements increased by £345m, reflecting the importance attached by the customer to the programme. Later years' funding was further increased by £250m during Equipment Plan 2004, via a transfer from the closely-linked Guided MLRS programme, due to future GMLRS rocket variants being based on designs developed under the IFPA programme. These funding increases are reflected in the increase in the forecast cost of the demonstration and manufacture phases noted in Section 2d below.

SECTION 2: THE ASSESSMENT PHASE

2a. Description of the Assessment Phase

The Initial Gate Business Case for IFPA was approved in May 2001. Following competition via a Capability Based Questionnaire, the Assessment Phase contract was awarded in May 2002 to a consortium of companies led by BAE Systems. Due to be completed in May 2005, the Assessment Phase is designed to provide a 'Route Map' to achieving the full IFPA capability, with recommendations about the type, quantities, and mix of munitions.

The increase in the forecast cost of this phase since MPR 2003 is caused by a decision to bring forward some risk reduction funding from later years in the IFPA programme. This is required to address assessment of innovative capabilities within this phase. Other work packages are aimed at the possible development of Insensitive Munitions compliant components (such as Sensor Fuzed Munitions) for the longer-term programme.

The current forecast date for submission of the Main Gate Business Case is May 2005, for approval in June 2005.

2b. Cost of the Assessment Phase

£m (outturn prices)	**Assessment Phase cost**
Forecast Cost	16
Approved Cost at Initial Gate	24
Variation	-8

2c. Duration of Assessment Phase

Current forecast date of Main Gate Approval	June 2005
Target date for Main Gate Approval	November 2005
Variation (Months)	- 5

2d. Boundaries of future Demonstration and Manufacture phase costs

£m (outturn prices)	**Lowest**	**Most Likely**	**Maximum**	**Range**
Current forecast cost of Demonstration and Manufacture phase	1125	1406	1828	703
Forecast cost of Demonstration and Manufacture phase at Initial Gate	-	814	-	-
% Change	-	+73%	-	-

2e. Boundaries of future project in-service dates

	Earliest	**Most Likely**	**Latest**	**Range**
Current forecast ISD	December 2006	December 2008	December 2010	48 Months
Forecast ISD at Initial Gate	December 2006	December 2008	December 2010	48 Months
% Change	0%	0%	0%	0%

PRE-MAIN GATE PROJECT SUMMARY SHEET

SURFACE COMBATANT MARITIME ROTORCRAFT (SCMR)

Integrated Project Team Responsible:
Lynx

SECTION 1: ABOUT THE REQUIREMENT

The Surface Combatant Maritime Rotorcraft (SCMR) will deliver a suite of capabilities, providing an above-water attack/surveillance capability in the ocean and littoral in support of maritime, joint or combined operations, including targeting, Anti-Surface and Anti-Submarine weapon delivery and battle damage assessment. In addition it provides key elements of the Frigate and Destroyer's (FF/DD) constabulary, Search and Rescue (SAR) and humanitarian support capability.

The maritime Lynx Mk3 entered service in 1977 with a planned life of 25 years. With the introduction of the Mk8 the Out of Service Date (OSD) was moved to 2018 with the expectation that the airframe life would be extended to 10,000 hours. Studies in late 1999 showed that the airframe life could not be extended, by any viable cost-effective means, beyond 7,000 hours. From 2008 onwards it will not be possible for each schedulable FF/DD to operate an organic helicopter.

An Option was taken in March 2003 to defer In- Service Date (ISD) to 2009, a further Option was taken in March 2004 to harmonise with the Future Air to Surface Guided Weapon (FASGW) resulting in an additional 2 year deferment of ISD to 2011.

SCMR is closely linked with the planned Battlefield Light Utility Helicopter (BLUH).

SECTION 2: THE ASSESSMENT PHASE

2a. Description of the Assessment Phase

Initial Gate (IG) approval for SCMR was given in September 2002 and an Assessment Phase (AP) contract placed with Westland Helicopters Ltd (WHL).

Although subject to separate IG approvals, the BLUH and SCMR AP programmes are running jointly with a single tender solution for WHL to develop and de-risk its Future Lynx (FLynx) proposal. Analysis undertaken for the IG Business case showed that there was little to discriminate between single tender and competitive strategies for this requirement, but that single tender offered a faster and lower risk route to provide the capability within the required timescales.

The capability offered by FLynx is being rigorously assessed against the requirement for both BLUH and SCMR with an emphasis on maintaining commonality between the two aircraft where this offers best value. Independent product benchmarking is assessing the value for money of the FLynx compared with the AB139, NH90, UH-60M and EC655 helicopters.

The current forecast date for approval of the joint BLUH and SCMR Main Gate business Case is December 2004, but this is dependent on the speed of progress with a review of the requirement.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost
Forecast Cost	15
Approved Cost at Initial Gate	15
Variation	0

2c. Duration of Assessment Phase

Current forecast date of Main Gate Approval	December 2004
Target date for Main Gate Approval	December 2003
Variation (Months)	+12

2d. Boundaries of future Demonstration and Manufacture phase costs

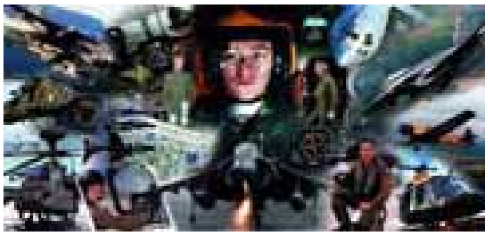
£m (outturn prices)	Lowest	Most Likely	Maximum	Range
Current forecast cost of Demonstration and Manufacture phase	498	548	592	94
Forecast cost of Demonstration and Manufacture phase at Initial Gate	385	428	512	127
% Change	+29%	+28%	+16%	-26%

2e. Boundaries of future project in-service dates

	Earliest	Most Likely	Latest	Range
Current forecast ISD	January 2011	April 2011	November 2011	10 months
Forecast ISD at Initial Gate	-	April 2007	November 2007	-
% Change	-	+120%	+102%	-

PRE-MAIN GATE PROJECT SUMMARY SHEET

UK MILITARY FLYING TRAINING SYSTEM (UKMFTS)



Integrated Project Team Responsible:
UK Military Flying Training System

SECTION 1: ABOUT THE REQUIREMENT

The ability to provide front line forces with sufficient trained aircrew is fundamental to air power capability. The current training system will soon be unable to train aircrew to the standard or number required. First, the present training aircraft, many of which are approaching their out-of-service dates, are equipped with avionics that are no longer found in front-line aircraft. This situation will worsen as more sophisticated aircraft, such as Typhoon, enter service. Second, the reduced crew-complements in modern aircraft require a different standard of training to that which the current system is designed or resourced to provide. As a consequence, an increasing amount of training is carried out on operational aircraft. This is more expensive and diverts attention away from operational tasks. It is judged that from 2007 the current training system will need to be radically redesigned. Procurement of Hawk 128 aircraft to replace the Hawk T1 has been agreed. This must be complemented by the introduction of new training methods and platforms that more accurately reflect current and future front-line aircraft than the existing Tucano, Jetstream, Dominie, Squirrel and Griffin.

SECTION 2: THE ASSESSMENT PHASE

2a. Description of the Assessment Phase

UKMFTS achieved Initial Gate approval in December 2002. Procurement options currently under consideration include Do minimum, Smart conventional procurement and a number of PPP/PFI. Of these the preferred procurement strategy is a PPP with the concept of a Training System Integrator (TSI) working with MOD to incrementally design and manage the aircrew-training requirement.

Seventeen bidders pre-qualified for the role of TSI, and of those, 4 consortia have since formed and continue to compete in the assessment phase.

The consortia have explored, with the Authority, areas of the project's scope, definition and acquisition strategy in a convergence phase, which will end in April 2004. One early element of the overall assessment, is for bidders to provide a Conceptual Systems Design (CSD), in advance of issuing Invitation to Negotiate, planned for November 2004. The CSD is a risk reduction exercise that will produce a dynamic representation of the proposed training pipelines in order to give assurances of the potential quality of the proposed system.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost
Forecast Cost	35
Approved Cost at Initial Gate	39
Variation	-4

2c. Duration of Assessment Phase

Current forecast date of Main Gate Approval*	April 2006
Target date for Main Gate Approval[1]	February 2006
Variation (Months)	+2

2d. Boundaries of future PFI programme costs†

£m (outturn prices)	Lowest	Most Likely	Maximum	Range
Current forecast cost of Demonstration and Manufacture phase	9382	10424	13552	4170
Forecast cost of Demonstration and Manufacture phase at Initial Gate	-‡	8715	-	-
% Change	-	+19.6%	-	-

2e. Boundaries of future project in-service dates

	Earliest	Most Likely	Latest	Range
Current forecast ISD	April 2006	April 2007	April 2008	24
Forecast ISD at Initial Gate	April 2006	April 2007	April 2008	24
% Change	0%	0%	0%	0%

* Main Gate Submission to Investment Approvals Board

† Whole Life Costs for PFI procurement including support up to 2028 as reflected in Initial Gate Business Case. Costs reflected within Equipment Plan and Short Term Plan.

‡ Minimum and Maximum costs were not provided in Initial Gate Business Case

PRE-MAIN GATE PROJECT SUMMARY SHEET

WATCHKEEPER

Picture not available

Integrated Project Team Responsible:
Tactical Unmanned Air Vehicles

SECTION 1: ABOUT THE REQUIREMENT

The Watchkeeper system will consist of unmanned air vehicles, sensors, and ground control stations. It will provide the Land Component Commander with a 24 hour, all weather, Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) capability supplying accurate, timely and high quality imagery to answer commanders' critical information requirements.

The Strategic Defence Review New Chapter identified that the ability to gather information about an opponent and to then use it to maximum effect is central to future combat capabilities in both high intensity conflicts and peace support operations. The Defence Strategic Guidance and the Future Capabilities Requirement 2002 highlight the importance of an ISTAR system of networked sensors. Capability audits have further identified the importance of a Land ISTAR system being fully integrated with other land surveillance systems and able to operate within the context of Joint Operations.

SECTION 2: THE ASSESSMENT PHASE

2a. 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 Vehicles (UAV) systems to suit a defined capability requirement rather than selecting an air vehicle centred approach. The programme is completing the Assessment Phase of the acquisition cycle and is in the process of recommending the preferred system solution to support a main investment decision. Proposals for the delivery of Watchkeeper have been received from Thales and Northrop Grumman.

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. Trade-offs between User and System Requirements continue to be identified and final decisions can shortly be made, 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. Collaboration was explored during the early stages of the Assessment Phase but it was not possible to align requirements. High levels of co-operation amongst allied nations on matters of requirement definition, technology, operational experience and acquisition are being maintained.

The requirement to deliver an early capability, coupled with the need for significant system integration with the emerging Network Enabled Capability requirements, has driven the DPA and the potential prime 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. Options for enhancement have been offered in the bidders proposals.

2b. Cost of the Assessment Phase

£m (outturn prices)	Assessment Phase cost
Forecast Cost	54
Approved Cost at Initial Gate	52
Variation	+2

2c. Duration of Assessment Phase

Current forecast date of Main Gate Approval	December 2004
Target date for Main Gate Approval	May 2004
Variation (Months)	+7

2d. Boundaries of future Demonstration and Manufacture phase costs

£m (outturn prices)	Lowest	Most Likely	Maximum	Range
Current forecast cost of Demonstration and Manufacture phase	***	***	***	***
Forecast cost of Demonstration and Manufacture phase at Initial Gate*	-	-	-	-
% Change	-	-	-	-

2e. Boundaries of future project in-service dates

	Earliest	Most Likely	Latest	Range
Current forecast ISD	November 2005	November 2006	November 2007	24 months
Forecast ISD at Initial Gate*	-	-	-	-
% Change	-	-	-	-

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

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