Future Capabilities

FUTURE EFFECTS

Objective: More flexible Armed Forces to deliver greater effect.

Performance Measures and Assessment

Implementation of Force Structure Changes, in particular the Future Army Structure:

- Three Type 23 Frigates and one submarine withdrawn from service. Launch of first Type 45 Destroyer;
- Entry into service of Sonar 2087 system;
- Conversion of 19 Mechanised Brigade to 19 Light Brigade;
- Progressive conversion of 4 Armoured Brigade to 4 Mechanised Brigade;
- Provision of key enablers and enhancements to brigade capability;
- Enhanced supporting intelligence, signals, planning, medical and logistic capabilities;
- Progressive introduction into service of the Bowman communications system;
- Javelin medium-range anti-armour missile accepted into service;
- New Territorial Army structure announced to deliver a more operationally effective and fully manned Territorial Army better integrated with the Regular Army;
- Nine Expeditionary Air Wings established;
- Formation of Typhoon Operational Conversion Unit (29 Sqn), Operational Evaluation Unit (17 Sqn) and first operational squadron (3 Sqn);
- Full operational capability of Brimstone anti-armour weapon achieved.

Enhanced command, control and communications, in particular through Network Enabled Capability:

- Guidance on information management processes completed;
- NEC Competency Framework introduced;
- Research into military capabilities enabled by networking completed;
- Work to develop the Recognised Theatre Logistics Picture and produce the user requirement for an end-to-end Joint Logistics Picture;
- Progressive delivery and roll-out of Defence Information Infrastructure, Bowman, the Cormorant Joint Rapid Reaction Force command system and the Joint Operational Command System;
- Defence Information Infrastructure (Future) first used in January 2006;
- Development of Defence Intelligence Modernisation Programme.

FORCE CAPABILITY CHANGES

107. The programme of modernisation set out in the *Future Capabilities* Command Paper of July 2004 continues to be implemented across Defence. In order to meet the likely operational challenges of the future, we must transform Defence to provide more versatile and flexible Armed Forces with a supporting Defence organisation that is as efficient as possible. To this end the programme of transformation is underpinned by three main themes: improving military effectiveness (concentrating on the effect our Armed Forces and military systems deliver rather than the number of systems involved); delivering efficiency improvements (in order to resource front line capabilities better); and investing in new equipment (to exploit technological advances in communications and enhance our strike capability on land, in the air and at sea).

108. We remain on track to deliver efficiency savings of £1.2 billion from the modernisation of our force structure announced in the July 2004 *Future Capabilities* Command Paper. These are part of our wider 2004 Spending Review efficiency target of £2.8 billion. Most of these savings will be delivered in 2006-07 and 2007-08 reflecting the progressive implementation of the major force structure changes and consequential reductions to service and civilian manpower. Following detailed scrutiny and analysis we have reduced the estimated 2004-05 saving of £88M we declared in the *Annual Report and Accounts 2004-05* to £64M, including £41M specifically arising from force structure changes. This reduction reflects clarification on efficiency measurement with the Office of Government Commerce and the introduction of more robust governance and reporting arrangements for 'one-off' savings. Following verification a further £182M was achieved by 1 April 2006 and reported to the Office of Government Commerce, bringing the cumulative total delivered to £246M of the £1.2 billion required.

Viking All Terrain Vehicle used by Royal Marines

Royal Navy Force Structure and Capabilities

109. The Royal Navy has implemented many of the force structure changes detailed in the *Annual Report and Accounts 2004-05*. These were aimed at delivering a versatile maritime force, structured and equipped for rapid deployment anywhere around the world. The changing global threat, together with the benefits of new technology and improved efficiency, means the Royal Navy no longer requires the same number of some types of ship as before. We have reduced the number of Type 23 frigates by three ships, with HMS Norfolk, HMS Marlborough and HMS Grafton being withdrawn from service. We have made progress towards our objective of reducing the number of attack submarines to eight by 2008, with the withdrawal from service of HMS Spartan. HMS Sovereign is expected to leave the Fleet by the end of 2006. Progress towards the delivery of the future Royal Navy took a major step forward in February 2006 with the successful launch of HMS Daring, the first of the new and highly capable Type 45 air-defence Destroyers. The year also saw the landing ship HMS Mounts Bay start sea trials and the launch of its sister ships HMS Cardigan Bay and HMS Lyme Bay; the early acceptance into service of the Sonar 2087 submarine hunting system; deliveries of air-defence missiles and ship and submarine torpedo defence systems, and Viking protected vehicles to the Royal Marines. Contracts were awarded for upgrading the Merlin anti-submarine helicopter force, for advanced computerised training systems to improve the combat effectiveness of major surface warships, and for advanced small-calibre gun systems for Type 23 Frigates.

Future Army Structure and Capabilities

110. In December 2004 we set out detailed plans for a more balanced Army structure of light, medium and heavy forces. Work to implement this during 2005-06 included:

- successful conversion of 19 Mechanised Brigade to 19 Light Brigade in October 2005, enabling it to take on the NATO Reaction Force commitment in 2006. Re-roling to a fully light structure will be completed by August 2007, and the Brigade will have completed its move from Catterick to Northern Ireland and Scotland by December 2008;

- progressive conversion of 4 Armoured Brigade to 4 Mechanised Brigade, which will be complete by December 2006. The Brigade will return from Germany to Catterick in 2008;

- provision of key enablers and enhancements to brigade capability, including creation of four new Royal Artillery sub-units, the formation of four Logistic Support regiments to support the Armoured and Mechanised Brigades, enhancements to brigade signals capabilities and the formation of additional Critical Care Squadrons in the Close Support Medical Regiments;

- formation of an Operational Intelligence Support Group that will deploy to Afghanistan in support of the NATO Allied Command Europe Rapid Reaction Corps Headquarters;

- enhancements to divisional and operational level signals capabilities;

- creation of an Air Manoeuvre Planning Team to work alongside Headquarters 16 Air Assault Brigade;

- improvements to Special Forces medical support;

- the capability of 17 Port and Maritime Regiment has been enhanced by an extra squadron, making it more deployable, and additional Postal and Courier detachments have enhanced Medical Support and Postal and Courier capabilities and centralised that capability into two regiments.

We have also given particular emphasis during the year to measures to enhance force protection for personnel deployed on operations, including Saxon ambulances, improved protection for Warrior, Saxon and CVR(T) and new body armour.

111. Over the next decade there will be a substantial increase in equipment capability across the Army. The Bowman communications system is being progressively rolled out, with more than 9,000 radio units delivered during the year to equip 7 Armoured, 1 Mechanised and 12 Mechanised Brigades and a contract was placed for the Falcon battlefield communications network. Medium forces will increasingly be based on the Future Rapid Effect System (see paragraph 145). Modernisation of Warrior and Scimitar armoured vehicles continued with further deliveries of the Battlegroup Thermal Imaging System, and the Javelin medium-range anti-armour missile was accepted into service in July 2005, four months early. A prototype of Terrier, the combat engineer vehicle being developed for the Army, was rolled out and trials were conducted of Titan and Trojan, the new Engineer Tank Systems vehicles. The combination of the Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) systems such as Watchkeeper (for which a £700M contract was placed during the year) and the ASTOR airborne ground surveillance system with long range precision attack capabilities, such as the Guided Missile-Launch Rocket System and the network-enabled ability to call upon Joint precision fires, such as Precision Guided Bomb, will enhance the Army's ability to prosecute targets faster and at greater range. Many of the equipments to support air manoeuvre, such as Future Lynx and replacements for Puma and Sea King, will also be fielded. Light force lethality will have been improved by Next Generation Light Anti-armour Weapon and Light Forces Anti-Tank Guided Weapon System.

Prototype Terrier combat engineer vehicle

Future Army Structures (Reserves)

112. We took forward work on a new Territorial Army (TA) structure to deliver a more operationally effective and fully manned TA better integrated with the Regular Army. This included comprehensive consultation with a wide range of stakeholders, particularly the TA itself. We announced our conclusions on 23 March 2006. Within a continuing overall establishment of 42,000 (including some 3,500 Officer Training Corps personnel) the TA will be rebalanced with some units re-roled, some expanded and others reduced. In particular, TA infantry and medical capabilities will be reduced and a number of new capabilities delivered, including a new Military Intelligence battalion; a new Army Air Corps Regiment to support Apache; enhancement to the Royal Engineers; and the formation of two new logistic regiments. Only three TA centres will close, and the TA's national footprint will be retained. TA units will be paired with the Regular counterparts they are to support, which will provide enhanced and more varied training opportunities. Transition to the new structure will be complete by 2012.

RAF Force Structure and Capabilities

113. The year saw further progress on development of the Royal Air Force to ensure that it can adapt to new threats and environments and is able to deploy forces worldwide and maintain air superiority. In particular, nine Expeditionary Air Wings were established on 1 April 2006. These create a clear focus for the combinations of formed units and supporting elements, thus developing a common ethos and identity that will enhance their collective effectiveness. We continued to drive forward RAF modernisation to ensure we maintain a flexible and agile Air Force with highly capable multi-role aircraft equipped with a range of advanced stand-off precision weapons and increasingly able to exploit networked capabilities. During the year the Typhoon Operational Conversion Unit (29 Sqn), the Operational Evaluation Unit (17 Sqn) and the first operational squadron (3 Sqn) were formed, the RAF took delivery of several hundred more ASRAAM and Stormshadow missiles, and the Brimstone anti-

armour weapon reached full operational capability. Network Enabled Capability will link combat assets, such as Typhoon and Joint Combat Aircraft, with commanders and surveillance assets, such as ASTOR and Nimrod MRA4, to enhance accuracy and speed of response.

Two Tornado GR4s carrying Brimstone

INFORMATION SUPERIORITY

114. Getting the right information to the right people at the right time in the right form while denying an adversary the ability to do the same gives us a relative advantage. There are a number of strands to this work which are described in the following paragraphs.

Network Enabled Capability

115. Network Enabled Capability (NEC) is not simply about acquiring the right equipment and technology, but about how we initially connect then integrate these together and about the way we operate to make use of the information to deliver an effects-based approach to operations. It is as much about culture as it is about equipment. The current phase of work to quantify the benefits that NEC will provide will be completed in 2006. Effective networks allow the Armed Forces, other Government Departments and agencies, and allies and coalition partners to operate in a timely and co-ordinated manner, and their importance is supported by lessons from operational deployments in Iraq and Afghanistan. We are working to achieve an initial NEC capability in 2009. This involves connecting sensors, decision-makers, weapon systems and support capabilities more effectively. Our ability to collect, process, disseminate and use information and intelligence better is also being taken forward within the Defence Intelligence Modernisation Programme (see paragraph 119).

Information Management and Exploitation

116. During the year we completed guidance on information management processes and introduced a new NEC Competency Framework. Together these provide a coherent approach to information management and will guide work on the requirement for information management training more generally. Work is also being done to produce the key reference information that provides the foundation for shared situational understanding. This includes developing the Recognised Theatre Logistics Picture, and producing the user requirement for an end-to-end Joint Logistics Picture. Progress was made in a number of equipment related areas. In particular the progressive delivery and roll-out of the Defence Information Infrastructure (see paragraph 118), Bowman (a secure tactical communications system for the Army), Cormorant (theatre communications system), the Joint Operational Command System which links UK forces and headquarters worldwide, and the Skynet 5 (satellite communications) programmes are starting to deliver information management benefits. The first phase of the research into military capabilities enabled by networking was successfully completed. This is now contributing to the development of a number of capability areas and we intend to trial these developments in NEC on some operational deployments in 2006-07. Information assurance, including an initial computer network defence capability, was reviewed to improve its governance and coherence.

Command and Battlespace Management

117. The Development, Concepts and Doctrine Centre is working to develop a number of concepts underpinning the concept of agility. This includes studies of how we will conduct command and control and joint battlespace management in the future. The Command and Battlespace Management programme, established in March 2001, aims to achieve a winning tempo in the conduct of operations by the development of decision superiority. It is an integral component of our efforts to enhance military capability and is a key tool for driving forward and managing the changes necessary to develop more integrated command, control and management on operations of joint military capabilities. Elements of the programme will only mature over 15 to 20 years.

Defence Information Infrastructure

118. The Defence Information Infrastructure (DII) will provide a modern information infrastructure across Defence, replacing some 300 diverse information systems across 2,000 locations worldwide. The programme will reduce costs through rationalisation and coherence of legacy infrastructures and the delivery of a new MoD wide infrastructure (DII (Future)). This new infrastructure will provide improved value for money, allow additional users to access applications such as the Joint Personnel Administration and is a key enabler for the Defence Change Programme (see paragraphs 121-134). Valuable experience was gained through the delivery of DII (Convergence), an interim system which was developed to meet business needs in advance of the delivery of the new Infrastructure, which currently has about 25,000 users across Defence. The DII (Future) programme has progressed well since contract award in March 2005 and

the system was first used on 31 January 2006. The DII(F) early sites migration programme is now underway and we plan to deliver 70,000 terminals and have 180,000 users on the system by mid 2007. Over £40M in recurring efficiencies were delivered during 2005-06.

Defence Intelligence Modernisation Programme

119. The Defence Intelligence Modernisation Programme is a 'programme of programmes' to modernise and transform Defence Intelligence over the next ten years. It aims to provide a state-of-the-art capability to collect, produce, analyse and disseminate intelligence information by 2016. It encompasses IS-enabled business change, an integrated information environment for Defence Geospatial Intelligence, and a rationalised Defence Intelligence estate embracing new working practices that will better support the Defence vision for network enabled, intelligence-led and effects-based operations.

An RAF controller

FURTHER SOURCES OF INFORMATION

120. Additional Information on Future Effects is available from the following sources:
– *2004 Spending Review: Stability, security and opportunity for all: investing for Britain's long-term future: New Public Spending Plans 2005-2008* (Cm 6237) at www.hm-treasury.gov.uk;
– The Defence Committee Fourth Report of Session 2004-05 *Future Capabilities* (HC 45-i & ii on 17 March 2005) available on www.parliament.the-stationery-office.co.uk;
– *The Government's Response to the Defence Committee Fourth Report of Session 2004-05 Future Capabilities* (Cm6616, July 2005) available at www.mod.uk;
– *Releasing resources to the front line: Independent Review of Public Sector Efficiency* at www.hm-treasury.gov.uk;
– *MoD Annual Report and Accounts 2004-05* available at www.mod.uk.

Essay: Military Drawdown in Northern Ireland

In August 1969, long running tensions in Northern Ireland erupted in a series of pitched battles between police and rioters in Londonderry. The riots stretched the police, the Royal Ulster Constabulary (RUC), to breaking point. The unrest worsened and spread and there were particularly violent outbreaks in North and West Belfast. Firearms were used, makeshift roadblocks were established and buildings were set on fire. The continued violence ultimately exhausted the 3,000 strong police force and many individual officers were injured. As a result, James Chichester-Clark, Prime Minister of Northern Ireland, asked the Government to send troops to restore order. The request was approved and troops were deployed on the streets of Londonderry almost immediately. Thus began, on 14 August 1969 military support to the police (originally the RUC and from November 2001 the Police Service of Northern Ireland (PSNI)) which continues today. The Armed Forces provide support to maintain public order and combat the challenges of terrorism and sectarian violence in Northern Ireland. This is the Armed Forces' longest running operation.

The first serving soldier was killed in Northern Ireland in 1971 and over 700 members of the Armed Forces have lost their lives since the deployment began. In 1972, at the height of the Troubles, there were approximately 25,000 troops deployed and over a hundred military deaths in the year. As the security situation has improved in recent years, the PSNI have increasingly been able to carry out their duties with less routine military support. This has enabled a steady reduction in the number of troops deployed to about 10,800 on 1 April 2005, comprising four resident general service infantry battalions, one roulement infantry battalion, 3 Royal Irish (Home Service) battalions and support structures.

Following the Provisional IRA's statement on 28 July 2005, formally ordering an end to their armed campaign, on 1 August 2005 the Government announced a two year normalisation programme, with details set out in an Annex to the UK and Irish Governments' Joint Declaration[1]. The military operation will end on 31 July 2007, when the Northern Ireland garrison will consist of no more than 5,000 troops in no more than 11 sites, which were identified by Minister (Armed Forces) in a written statement on 10 May 2006. The remaining troops based in Northern Ireland will then be available for worldwide operations just like those based anywhere else in the UK.

Since 1 August 2005 we have made considerable progress towards meeting our commitments under the Joint Declaration. A network of infrastructure was built over the past three decades to underpin the provision of military support to the police. The majority of this is now being dismantled or disposed of. As of 1 April 2006, 28 military sites were in use, down from 106 in 1994 when the Provisional IRA declared their first ceasefire. The numerous observation towers, visible across the skyline of South Armagh and a constant source of controversy for local residents, are being pulled down. The last three are scheduled to be cleared by 31 March 2007. The last roulement battalion, the 1st Battalion, the Royal Welch Fusiliers, left Northern Ireland on 16 January 2006.

As part of normalisation, the three Royal Irish (Home Service) battalions are also being disbanded. The Home Service battalions were established specifically to support the police. They and their predecessors in the Ulster Defence Regiment have provided invaluable support to the police and contributed much to creating the current environment. However, as they have no role outside Northern Ireland there is no military requirement for them with the end of the military operation. Over 3,000 Home Service personnel will consequently be discharged. We are keen not to lose the expertise they possess and are encouraging those who so wish to apply to transfer into the general service Army. A settlement package for Royal Irish personnel, including access to resettlement services, was announced on 9 March 2006[2]. Work continues to develop details of a bespoke aftercare service for all current members of the Royal Irish (Home Service), their predecessors and their dependents.

The removal of infrastructure, the disbandment of the Home Service battalions and the reduction to a garrison of no more than 5,000 has significant consequences for the Defence civilians who worked alongside their military counterparts throughout. As a result around 1,500 individuals are likely to be declared surplus (although 340 new jobs are being created at the remaining Defence sites). We are trying to avoid any compulsory redundancies and are discussing a possible additional package of support measures tailored to the particular circumstances with the Trades Unions.

After the Operation ends on 31 July 2007, military personnel in Northern Ireland will continue to provide specialist support to the police, such as bomb disposal, as they do elsewhere in the UK. They will also retain the ability to provide public order support to the Police in Northern Ireland[3] if needed in the event of substantial public order demands, as set out in Lord Patten's 1999 review of policing in Northern Ireland. This will focus on support during periods when contentious parades are held. We continue to work to create the conditions where even that role is no longer needed.

British Troops in Northern Ireland

[1] See www.nio.gov.uk/joint_declaration_between_the_british_and_irish_governments.pdf\
[2] See www.publications.parliament.uk/pa/cm200506/cmhansrd/cm060309/debtext/ 60309-10.htm#60309-10_spmin2.
[3] See www.nio.gov.uk/a_new_beginning_in_policing_in_northern_ireland.pdf

EFFICIENCY AND CHANGE

Objective: More flexible and efficient organisations and processes to support the Armed Forces.

SR2004 Efficiency Target

Realise total annual efficiency gains of at least £2.8 billion by 2007-08, of which three quarters will be cash-releasing
- **Reduce civilian staff numbers by at least 10,000;**
- **Reduce the number of military posts in administrative and support roles by at least 5,000;**
- **Be on course to have relocated 3,900 posts out of London and the South East by 2010.**

Performance Measures and Assessment
By 31 March 2006 between £1,323M and £1,398M of efficiencies had been delivered, including £200M of sustainable efficiencies realised in 2004-05.

Force Structure Changes:

- **Reductions to Type 42 Destroyer and Type 23 Frigate fleets;**
- **Reduction of Mine Hunter force level to 16 vessels and removal of 3 Northern Ireland patrol vessels;**
- **Re-roling and reduction of Challenger 2 armoured squadrons and AS90 artillery batteries;**
- **Reductions to Tornado F3 and Jaguar units;**
- **Operating and support cost savings from a reduced Nimrod fleet.**

Corporate Services:

- **Roll-out of Joint Personnel Administration system to the RAF in March 2006;**
- **Progressive roll-out of Human Resource Management System;**
- **Progressive roll-out of Defence Information Infrastructure.**

Procurement and Logistics:

- **Equipment procurement expenditure reductions of £54M;**
- **Improved logistic support to front line and between £500M and £575M of efficiencies through Defence Logistics Transformation Programme on the basis of the latest available evidence;**
- **First stage of Whole Fleet Management programme achieved Initial Operating Capability in October 2005;**
- **£31M efficiencies through Estates Modernisation programme;**
- **£35M efficiencies from other areas of procurement.**

Productive Time:

Productive Time:
- **Reduction in time taken to restore personnel to full fitness.**

Organisational Change:

- **Continuing rationalisation of TLB headquarters and organisation.**

Relocation:

- **1,229 posts relocated by 31 March 2006.**

Personnel Reductions:

- **Over 950 military and support posts disestablished and over 6,000 civilian reductions achieved by 1 April 2006.**

EFFICIENCY AND CHANGE PROGRAMMES

121. The Department has comprehensive efficiency and change programmes that extend right across the Department and affect every employee. They affirm the importance we attach to delivering the greatest possible military capability from the resources available for Defence. Improvements in areas such as logistics and medical services are already contributing directly to an increase in our military capability. Efficiencies in process and back-office functions are being reinvested in further enhancements. This chapter explains the relationships between the Change and Efficiency programmes and details our performance and progress against our efficiency targets.

Defence Change Programme

122. The purpose of the Defence Change Programme is to modernise departmental business processes to improve efficiency and effectiveness, thus maximising our investment in front-line operational capability. Launched in 2002, it now joins up the major change programmes across Defence under strong central direction, to produce a single, coherent programme. It ensures that each change initiative is worthwhile and delivers the expected benefits through robust governance and plans. In prioritising between the various change initiatives underway across the Department, the Change Programme ensures that scarce resources of people, money and skills are devoted to the most important and productive areas. It is a long term commitment to improved delivery, and therefore includes programmes that are now beginning to deliver benefits and new initiatives. There are 17 pan-Defence change programmes in all, covering almost every business process. As well as improving the way we do business, 12 of the programmes will deliver about £1.4 billion of benefits in the 2004 Spending Review period, corresponding to around 50% of our efficiency target. The Programme has been supported by investment of some £315M drawn down during 2005-06 from the Defence Modernisation Fund, which is a ring-fenced sum of £1 billion secured from HM Treasury over the three years of the 2004 Spending Review period.

Efficiency Programme

123. As part of the 2004 Spending Review, we agreed to realise total annual efficiency gains of at least £2.8 billion by 31 March 2008, of which three quarters will be cash releasing. Within that target, we aim to:
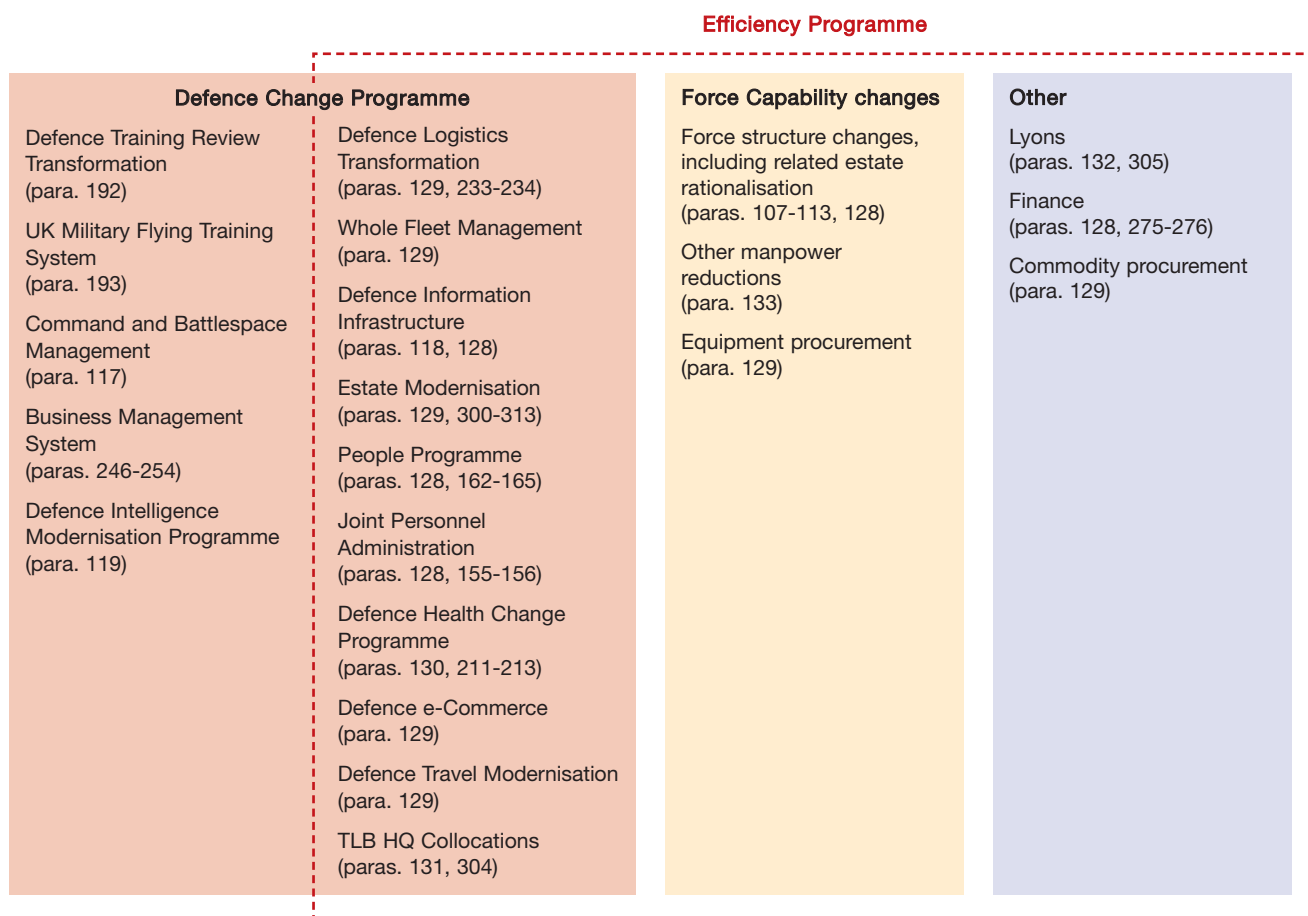
- Reduce the number of our civilian staff by at least 10,000;

- Reduce the number of military posts in administrative and support functions by at least 5,000;

- Be on course to have relocated 3,900 posts out of London and the South East by 2010.

124. Around half of the target will be achieved by programmes that were already within the Defence Change Programme, and a further 40% from implementation of the force capability changes set out in *Delivering Security in a Changing World: Future Capabilities*, published in July 2004 (see paragraphs 107-113). The remaining 10% will come from various other programmes, including TLB commodity procurement, relocations in response to the Lyons review and work to simplify and improve the finance function. The relationship between the Efficiency Programme and the Defence Change Programme is shown at Figure 7, together with the location of further details on specific projects. As this shows, the Change and Efficiency programmes are deeply embedded across Defence.

RAF training: preparing the next day's missions.'

Figure 7: Relationship of Change and Efficiency Programmes

Efficiency Programme

Defence Change Programme

Defence Training Review Transformation
(para. 192)

UK Military Flying Training System
(para. 193)

Command and Battlespace Management
(para. 117)

Business Management System
(paras. 246-254)

Defence Intelligence Modernisation Programme
(para. 119)

Defence Logistics Transformation
(paras. 129, 233-234)

Whole Fleet Management
(para. 129)

Defence Information Infrastructure
(paras. 118, 128)

Estate Modernisation
(paras. 129, 300-313)

People Programme
(paras. 128, 162-165)

Joint Personnel Administration
(paras. 128, 155-156)

Defence Health Change Programme
(paras. 130, 211-213)

Defence e-Commerce
(para. 129)

Defence Travel Modernisation
(para. 129)

TLB HQ Collocations
(paras. 131, 304)

Force Capability changes

Force structure changes, including related estate rationalisation
(paras. 107-113, 128)

Other manpower reductions
(para. 133)

Equipment procurement
(para. 129)

Other

Lyons
(paras. 132, 305)

Finance
(paras. 128, 275-276)

Commodity procurement
(para. 129)

Governance

125. Rigorous governance structures are in place, with a particular emphasis on risks and benefits. Overall leadership of the Change Programme is provided by the Defence Change Programme Board, which is responsible to the Defence Council and Defence Management Board for managing cross-cutting issues such as common risks and interdependencies, and loading and capacity issues. It is chaired, when Ministers attend, by the Secretary of State, or by the 2nd Permanent Under Secretary in his absence. Each programme within the Change Programme has a Senior Responsible Owner who is personally accountable for maximising the delivery of benefits and reports regularly to the programme's sponsoring Minister. They are individually supported and challenged in this by the Change Delivery Group, routinely chaired by the 2nd Permanent Under Secretary, as the Senior Responsible Owner of the overall Defence Change Programme. The 2nd Permanent Under Secretary also has overall responsibility for delivery of the Efficiency Programme. He chairs the Efficiency Delivery Board, which oversees this on behalf of the Defence Management Board. The Defence Management Board receives regular progress reports on both the Efficiency and the Defence Change Programmes.

Performance against SR04 Efficiency Target

126. The MoD's Efficiency Technical Note describes the Efficiency Programme in detail and explains how we will deliver and measure the efficiency gains. Additionally, extensive work has been undertaken to embed efficiency targets within Top Level Budget Holders' financial control totals, and to develop robust methods to track delivery. Progress continues to be made in meeting the Department's efficiency targets. By 31 March 2006, between £1,323M and £1,398M of efficiencies had been delivered, including £200M of sustainable efficiencies realised in 2004-05. Details are set out in Table 2.

Table 2: Performance against SR04 Efficiency Target Programme	Planned Efficiencies by 31 March 2006 £M	Achievement by 31 March 2006 £M	Future Planned Efficiency gains	
			2006-07 £M	2007-08 £M
Force Structure changes	106	106	298	388
Corporate Services	131	343	254	309
Military Personnel Management	5	16	43	85
Civilian Personnel Management	21	24*	49	107
Finance Function	2	2	13	11
Information Services	103	301*	149	106
Procurement and Logistics	695	674-749	1,123	1,660
Equipment Procurement	54	54*	206	374
Defence Logistics Transformation	539	500-575	714	951
Whole Fleet Management	56	54*	66	116
Estates Modernisation	37	31*	62	95
Other Procurement	9	35	75	124
Productive Time	84	105*	86	88
Organisational changes	0	0	2	14
Relocation	12	18	18	18
Manpower	88	86	285	449
RN	15	15	32	32
Army	18	18	64	88
RAF	53	51	121	203
Civilian	2	2	68	126
Adjustment	-9	-9	-41	-126
TOTAL	1,107	1,323-1,398	2,025	2,800

Notes:
1. Planned Efficiencies and Achievement by 31 March 2006 include efficiencies during 2004-05 and 2005-06. Efficiency gains for 2005-06 are provisional, subject to final validation. Because of the size of the Defence Logistics Transformation Programme, the process of validation takes some time and this is the reason why a range is given in the Table.
2. The planned efficiencies in this table reflect a number of changes agreed by the Office of Government Commerce and the Treasury since the most recent version of the Efficiency Technical Note was published in December 2005.
3. Adjustment to avoid double counting of manpower savings.
4. Efficiency gains marked with an asterisk include an element of non-cashable gains.
5. The Information Services total for 2005-06 includes a non-recuring £260M for the reduced in-year cost of sustaining legacy systems (see paragraphy 128)
6. 'Force structure changes', 'Equipment Procurement', 'Manpower' and 'Adjustment' make up the efficiency savings of £1.2 billion announced in the Future Capabilities Command Paper (See paragraphs 107-113)

Force Structure Changes

127. Following the 2003 Defence White Paper, the Department undertook a detailed study of force structures and the equipment programme and determined that extensive restructuring would allow us to achieve better policy outcomes with smaller, lighter and more capable forces. These changes were set out in *Delivering Security in a Changing World: Future Capabilities*, published in July 2004. In 2004-05, we delivered £41M of efficiency savings through changes to our force structures. By 31 March 2006, we had delivered a further £65M through:

- reductions to our Type 42 Destroyer and Type 23 Frigate fleets, enabled by revised assumptions about concurrent operations;

- reducing the Mine Hunter force level to 16, enabled by changed operational requirements, and removing the three Northern Ireland patrol vessels as a result of improving security;

- the continued re-roling and reduction of Challenger 2 armoured squadrons and AS90 artillery batteries to reflect a shift in emphasis from heavy to light and medium weight forces;

- reductions to Tornado F3 and Jaguar units in line with the introduction into service of Typhoon; and

- operating and support cost savings from a reduced Nimrod fleet.

Further information on force structure changes is at paragraphs 107-113

Corporate Services

128. The Department is undertaking a range of programmes to modernise and improve the effectiveness and efficiency of its corporate services:

- The Joint Personnel Administration will modernise the personnel management and administration of the Armed Forces by harmonising and simplifying a range of personnel policies and processes and by introducing a new commercial off-the-shelf information systems. The system was rolled-out to the RAF in March 2006. It has delivered £16M of benefits during 2005-06. See paragraphs 155-156 for further information;

- The People Programme will enable MoD civilians to make the best contribution to the UK's defence capability through a civilian workforce that is appropriately skilled, managed and motivated. Efficiency gains will be achieved through a reduction of civilian Human Resources (HR) staff, lower maintenance costs of the HR information system, implementation of a modern, simple pay, policy and processes and a reduction in administration tasks. Five new work-streams were endorsed in November 2005, including Performance Management and Diversity. The People Programme has delivered £24M of benefits during 2005-06. See paragraphs 162-165 for further information;

- The Defence Resource Management Programme aims to simplify and improve current financial processes, structures and systems to reduce costs and improve decision-making. Efficiency gains will be achieved from a reduction in the number of staff in the finance function and reduction in expenditure on external assistance. Just over £2M of efficiencies had been delivered by 31 March 2006. Further information is at paragraphs 275-276;

- The Defence Information Infrastructure (DII) is delivering a modern management information infrastructure across Defence. In addition to some £40M of recurring efficiencies delivered by 31 March 2006, the programme had delivered an additional non-recurring in-year benefit for 2005-06 of £260M reflecting the lower cost of sustaining legacy systems, for a total of some £301M. Further information on DII is at paragraph 118.

Procurement and Logistics

129. As set out in detail elsewhere in the Annual Report and Accounts, the Department is undertaking a range of programmes to build on Smart Acquisition, improve value for money from expenditure on the future equipment programme, increase the effectiveness, efficiency and flexibility of Defence logistics activity, and modernise management of the Defence estate. We are also working to improve the efficiency of commodity procurement across Defence. These programmes comprise the Procurement and Logistics element of our overall efficiency programme. In particular:

- *Future Capabilities* identified opportunities to improve value for money from equipment procurement expenditure. Revised procurement strategies for the future helicopter fleet and the Future Rapid Effects System, a more efficient way to provide the offensive air capability, and reprofiled acquisition increments for indirect fire precision attack produced a total of £54M efficiencies during 2005-06;

- The purpose of the Defence Logistics Transformation Programme is to transform the means by which all logistics support is delivered to the three Services. On the basis of the available information, the programme delivered between £500M and £575M of efficiencies by 31 March 2006 against a target of £539M. Further information is at paragraphs 233-234 and in the essay on page 119;

- Whole Fleet Management will provide better management of the Defence land vehicle fleet and facilitate the training of force elements to the required standard on future reduced fleets. Savings are achieved through reduced spares consumption and battery use, improved management of the vehicle fleet and productive time efficiencies. The first stage of the programme achieved initial operating capability in October 2005. Efficiencies of £54M had been delivered by 31 March 2006;

- The Estate Modernisation programme is rationalising and improving the condition of the Defence estate and obtaining better value for money from estate expenditure through the introduction of Prime Contracting, the modernisation of single living accommodation and the provision of water and waste water services. Efficiency gains are achieved through personnel reductions, lower management overheads for Service families' accommodation and reduced operating costs. £31M of efficiencies had been delivered by 31 March 2006. Further information is at paragraphs 300-313;

- The 'Other Procurement' Initiative extends the Defence Logistics Organisation's Procurement Reform programme across other areas of Defence. This aims to maximise the Department's buying power using reverse auctions, electronic purchasing, incentives and rationalisation of contracts, and had delivered a further £35M of efficiencies by 31 March 2006. This includes £12M from the Defence Travel Modernisation

programme to deliver a modern and coherent travel e-booking capability. We are working closely with the Office of Government Commerce and other Government Departments in travel and a number of other areas to maximise the potential benefits of procurement reform for the MoD and across Government.

Productive Time

130. The objective of the Defence Health Change Programme is to increase the proportion of military personnel who are fit-for-task by improving the quality of healthcare using regional rehabilitation units and other methods. By 31 March 2006, we have delivered £105M of non-cashable annual efficiency gains from reducing the time taken to restore personnel to full fitness. Further information is at paragraphs 211-215.

Organisational Changes

131. A number of initiatives are in hand to slim down the Department's management overhead, both in the Head Office in London and elsewhere across the Top Level Budget organisations:

- Following the completion of the successful modernisation programme to refurbish the MoD Main Building, introduce new technology and improved working practices, and reduce Head Office numbers, we have disposed of five central London headquarters buildings (Northumberland House, Metropole Building, St Giles' Court, Great Scotland Yard and St Christopher House); and in early 2006 we announced our intention to develop detailed proposals to vacate the Old War Office in Whitehall. By March 2005, we had achieved a reduction in management costs in Head Office and other top-level headquarters of 12% towards our 2002 Spending Review PSA target of a 13% reduction. As explained below, substantial further reductions in management costs are in prospect from 2006-07 onwards, but as these benefits do not fall in the SR02 period the final achievement against the PSA target remains at 12%;

- Rationalisation of a number of TLB Headquarters and organisation continued throughout the year. In particular work to merge the Royal Navy's Fleet and 2nd Sea Lord Top Level Budget organisations was completed and a single Naval Top Level Budget organisation with a unified Headquarters in Portsmouth stood up on 1 April 2006. This will save 125 military and 325 civilian posts and will generate around £17M of efficiencies by 31 March 2010. Project Hyperion is taking forward the reorganisation of Land Command and the Adjutant General's Department and the establishment of a new collocated Headquarters. This is expected to save about 110 military and 240 civilian posts and generate £15M of efficiencies by 31 March 2011. Collocation of the headquarters of the Royal Air Force Strike Command and Personnel and Training Command Top Level Budget organisations at RAF

High Wycombe progressed, with completion planned for October 2006. This is expected to save around 475 military and 525 civilian posts and generate £30M efficiencies by 31 March 2010. Further information is at paragraphs 304-307.

The new Fleet Headquarters – Sir Henry Leach Building

Relocations

132. We remain on track to deliver a net reduction of 3,900 posts in London and the South East by 2010. 1,229 posts had been relocated and some £18M efficiencies delivered by 31 March 2006, as a result of the restructuring of the Army Technical College, which moved from Arborfield to Harrogate and other sites. Further information is at paragraph 305.

Personnel Reductions

133. The changes to force capabilities and the departmental Change and Efficiency Programmes will produce further personnel reductions:

- The number of military personnel will reduce by over 10,000 by April 2008. This will enable over 5,000 military administrative and support posts to be abolished. Over 950 of these posts had been disestablished by 1 April 2006. Further information is at paragraphs 155-156 and 207.

- We are planning to reduce civilian personnel numbers by over 11,500 by 1 April 2008. This will be achieved by a combination of natural wastage (normal retirements and resignations), moves to private contractors on Transfer of Undertaking and Protection of Employment terms, reduced recruitment and a voluntary early release scheme. A reduction of over 6,000[1] had been achieved by 31 March 2006, and the total number of civilians employed by the MoD reduced from 108,470 Full Time Equivalents on 1 April 2005 to 103,930 on 1 April 2006. See paragraphs 292-293 for further information.

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[1] This is based on agreement with the Treasury and includes Tranding Fund reductions but excludes operational Locally Engaged Civilians.

FURTHER SOURCES OF INFORMATION

134. Additional Information on Efficiency and Change is available from the following sources:

– quarterly PSA reports to HM Treasury available at www.mod.uk;
– MoD Autumn Performance Report 2005 available at www.mod.uk;
– *Delivering Security in a Changing World: Future Capabilities* available at www.mod.uk;
– *SR2004 Efficiency Technical Note* available at www.mod.uk;
– *2004 Spending Review: Stability, security and opportunity for all: investing for Britain's long-term future* (CM 6237 on 12 July 2004) available at www.hm-treasury.gov.uk;
– *The independent review of Public Service Relocations – Well Placed to Deliver? – Shaping the Pattern of Government Service' by Sir Michael Lyons* available at www.hm-treasury.gov.uk;
– *The Gershon Review: Releasing Resources for the Frontline: Independent Review of Public Sector Efficiency* (July 2004) available at www.hm-treasury.gov.uk.

Essay: The Changing Defence Footprint in the United Kingdom

In 1990, just after the end of the Cold War, there were about 315,000 Service personnel, of whom about 17,000 were women and only a few thousand came from ethnic minority backgrounds. They were supported by about 141,000 UK based civilians. The Armed Forces were spread throughout the UK and a disproportionately large number of civilian staff were based in London. By around 2010, there will be about 191,000 Service personnel, of whom about 17,000-18,000 will be women and 10,000 will come from ethnic minority backgrounds, supported by about 90,000 civilians, a much smaller proportion of whom will be based in London and the South East of England. We are also bringing home some of the Forces from Germany. Operations in the Balkans, Iraq, Afghanistan and elsewhere have demonstrated that the Armed Forces must be able to conduct short-notice expeditionary operations and be highly flexible. Housing, training, deploying and maintaining this type of force is a very different challenge from that of the past. And the transition to this more demanding environment has to be delivered and sustained within a broadly constant level of resources. We are therefore taking forward a wide ranging programme to deliver the supporting infrastructure we will need and that makes the most effective use of Defence resources to deliver as much Defence capability as possible. This will involve greater functional and geographic focus around clusters of fewer but better used and supported sites, with a streamlined management superstructure. Wider Government policy initiatives, including Sustainable Development and the Lyons Review, are being embraced in our planning. We are achieving this in an evolutionary manner and have been moving in this direction for a number of years.

While many details are unresolved, the broad geographical picture is fairly clear. In future the Armed Forces will increasingly be concentrated in larger, denser, clusters:

- **The Royal Navy** has already established an integrated single Headquarters in Portsmouth and is concentrating around sites in Portsmouth, Plymouth and on the Clyde. Portsmouth will be home to over half the surface fleet, including the aircraft carriers, Type 42 destroyers, Type 23 frigates and training units. Devonport in Plymouth, the largest Naval Base in Western Europe and the only site in the UK equipped to conduct nuclear submarine refits, will be home to Type 22 and Type 23 frigates, the amphibious assault ships, Trafalgar class submarines and the Royal Naval Surveying squadron. The Fleet Air Arm and the Royal Marines will also be mainly concentrated in the South West of England. On the Clyde, Faslane and the linked Royal Naval Armaments Depot at Coulport are home to the strategic nuclear deterrent and responsible for the storage, processing, maintenance and issue of the Trident Weapon System and ammunitioning for all submarine embarked weapons;

- **The Army** is creating a single integrated Headquarters probably at Andover in Hampshire. It is moving towards a more balanced deployable force organised around two armoured brigades, three mechanised brigades, a light brigade and an air assault brigade, supported by appropriate, deployable specialist units. To house these coherently it is working to develop over time a number of multi-Battalion 'supergarrisons' around the country to replace many existing, mostly single-battalion garrisons. Some of these will be large single-site, multi-unit locations (such as the 16 Air Assault Brigade in Colchester). Others will probably comprise a related and geographically coherent group of separate facilities (such as the garrisons around Salisbury Plain). Infrastructure and training requirements make it likely the heaviest forces will be concentrated in the south around Salisbury Plain and Aldershot (where Project Allenby/Connaught is providing a modern living and working environment) and in Germany. 4th Armoured Brigade, currently based in Germany, is converting to a mechanised brigade and will relocate to Catterick in 2008-09. 19 Mechanised Brigade, currently based in Catterick, started conversion to a light brigade in January. The Northern Ireland garrison will in the long term comprise no more than 5,000 troops, based coherently at a smaller number of locations. The Army is also working to deliver improved geographic cohesion over time for non-deployable functional supporting units. As well as improving deployability and administrative efficiency, this strategy should deliver greater long-term stability for the personnel involved and their families;

- **The Royal Air Force** is establishing a single integrated Headquarters at RAF High Wycombe in Buckinghamshire. It is also setting up nine Expeditionary Air Wings, to provide a clear focus for combinations of formed units and supporting elements when deployed on operations. The coming reduction in the number of types of aircraft in service will enable a parallel reduction in the number of airfields it needs, and this is being taken forward incrementally through the Defence Airfield Review. Typhoon squadrons will be based at RAF Leuchars in Scotland and RAF Coningsby in Lincolnshire; Tornado squadrons at RAF Lossiemouth in Scotland and RAF Marham in Norfolk; Harrier squadrons at RAF Cottesmore in Rutland; Nimrod Maritime Reconnaissance aircraft at RAF Kinloss in Scotland, deployed to RAF St Mawgan in Cornwall; the communications fleet at RAF Northolt in Middlesex; the air transport and refuelling fleet at RAF Lyneham in Wiltshire and RAF Brize Norton in Oxfordshire; helicopters at RAF Aldergrove in Northern Ireland, RAF Benson in Oxfordshire and RAF Odiham in Hampshire; the surveillance fleet at RAF Waddington in Lincolnshire; the RAF Regiment at RAF Honington in Suffolk and RAF Leeming in Yorkshire; and flying training units at RAF Valley

in North Wales, RAF Linton-on-Ouse in Yorkshire and RAF Cranwell in Lincolnshire. Non-flying units are predominantly based at a number of locations across central southern England, the east Midlands, Lincolnshire and Yorkshire;

- **Joint Forces.** The increasingly integrated nature of Defence has been reflected in various joint structures established to ensure effective coordination of related capabilities and to command operations. The Permanent Joint Headquarters is based at Northwood in north London, the Joint Helicopter Command is collocated with the Army Headquarters at Wilton in Wiltshire, and Joint Force Harrier is based at RAF Cottesmore.

These capabilities are supported by a substantial enabling infrastructure. Following the successful relocation of the Defence Procurement Agency to Bristol in the mid 1990s there has been a steady trend towards creation of coherent regionally focused supporting specialisms:

- **London Head Office:** We have reduced from more than 20 MoD headquarters buildings in London in 1990 to three today, and are also looking to dispose of the Old War Office Building in Whitehall. We are taking forward further rationalisation of the Greater London estate, which will eventually be concentrated mainly on facilities at Woolwich and RAF Northolt;

- **Acquisition and Logistics:** The Defence Procurement Agency (then the Procurement Executive) relocated from London to Abbey Wood near Bristol in the early 1990s. We have announced our intention to create an acquisition hub with improved decision-making and better through-life management of Defence equipment in the Bath and Bristol area where the Defence Procurement Agency and Defence Logistics Organisation already work closely together. In the longer term this is likely to include relocation of the logistic land and air environment Integrated Project Teams from their current sites, mainly at Andover in Hampshire and RAF Wyton in Huntingdonshire, and collocation of supply chain staff in Andover, though no final decisions have yet been made;

- **Training and Education:** The Defence Academy at Shrivenham in Oxfordshire provides advanced training and education, including the Joint Service Command and Staff College. The Defence Training Review rationalisation programme will provide modern, cost-effective specialist training, improved accommodation and facilities and by harmonising training currently delivered by individual Services will enable more efficient use of a smaller training estate;

- **Personnel Administration:** Service personnel administration, including pensions and benefits, will mainly be delivered by the Armed Forces Personnel Administration Agency at RAF Innsworth in Gloucestershire, Portsmouth in Hampshire, and Glasgow and civilian personnel administration mainly by the People, Pay and Pensions Agency in Bath in Somerset;

- **Corporate Finance:** We are creating a Financial Accounting Shared Service Centre to provide specialised financial transaction services for the entire Department. This will be based in Bath (for financial accounting business) and Liverpool (for bill processing and paying);

- **Scientific Support:** The Defence Science and Technology Laboratory is rationalising scientific support to core sites at Porton Down in Wiltshire, Portsdown West near Portsmouth and Fort Halstead near Sevenoaks in Kent. Specialist hydrographic and meteorological services are provided by the UK Hydrographic Office in Plymouth and the Met Office in Exeter.

Conclusion

We have come a long way from the situation at the end of the Cold War. But we have some way further to go. We are working both to reduce further the number of sites we use and to consolidate significant blocks of Defence business in geographically coherent areas mainly located away from London and the South East of England. In 1993 nearly 50,000 MoD civilians were employed in and around London. This has shrunk to some 24,000 and will reduce further. The Head Office and Permanent Joint Headquarters will remain in London. The Royal Navy is already concentrated in Portsmouth, Plymouth and on the Clyde. The Army will remain widely spread across the United Kingdom, although over time we aim to create a smaller number of regional centres of gravity for deployable forces comparable to the current major garrisons in central southern England, Essex, and Yorkshire. The Royal Air Force centres of gravity will remain central southern England, the east Midlands and East Anglia, Lincolnshire and Yorkshire, and eastern Scotland. The primary focus of acquisition, logistics, personnel administration and corporate finance business will be in the west of England around Bristol, Bath and Gloucester leading to an increase in the number of civilian personnel, currently some 24,000, employed in this area.

FUTURE CAPABILITIES AND INFRASTRUCTURE

Objective: Progress future equipment and capital infrastructure projects to time, quality and cost estimates.

Public Service Agreement Targets (SR2004 MoD Target 6 and SR2002 MoD Target 7

Deliver the Equipment Programme to cost and time by achieving:
- At least 97% of Key User Requirements, for all Category A to C Projects that have passed Main Gate Approval, to be achieved throughout the PSA period.
- An average in-year variation of forecast In Service Dates, for all Category A to C Projects that have passed Main Gate Approval, to be no more than 0.7 months in FY05/06, 0.5 months in FY06/07 and 0.4 months in FY07/08.
- An average in-year variation of forecast costs for Design and Manufacture phase, for all Category A to C projects that have passed Main Gate approval, of less than 0.4% in FY05/06, 0.3% in FY06/07 and 0.2% in FY07/08.

Increase value for money by making improvements in the efficiency and effectiveness of the key processes for delivering military capability:
- Achieve 0% average annual cost growth (or better) against the major equipment procurement projects (measured against estimated project costs at the beginning of the year).

Performance Measures and Assessment

At least 97% of Key User Requirements, for all Category A to C Projects that have passed Main Gate Approval, to be achieved:

- 97% of Key User Requirements predicted to be achieved (99% 2004-05).

On average, less than 0.4% in-year variation of forecast costs for Design and Manufacture phase of projects over £20M:

- 0.2% average increase in costs measured against estimated cost at beginning of year (2.2% average decrease 2004-05).

On average, no increase in costs of 20 largest Major Projects:

- 0.1% average annual cost decrease of 20 Major Projects measured against estimated cost at beginning of the year (4.6% average increase 2004-05).

No more than 0.7 months in-year slippage of forecast In-Service Dates for projects over £20M:

- 0.7 months average slippage (0.9 months 2004-05).

DPA delivery of at least 90% of planned in-year asset deliveries, by value:

- 107% of planned in-year assets delivered (100% 2004-05).

Other Measures:

- 90 Urgent Operational Requirements to support operations in Iraq and Afghanistan approved during 2005-06;
- Continuing progress with equipment-led capability change programmes headed by Senior Responsible Owners;
- Defence Industrial Strategy White Paper issued;
- Office of Government Commerce Peer Review of DPA Forward programme;
- UK Defence export contracts worth over £4 billion, and agreement on sale of Typhoon aircraft to Saudi Arabia.

EQUIPMENT PROCUREMENT

135. The Equipment Programme delivers battle-winning equipment to the Armed Forces, harnessing new technologies and concepts. It is rigorously reviewed every two years, as part of the MoD's overall planning and programming process, to ensure that we make the best possible use of available resources and provide the UK Armed Forces with the affordable capabilities they need for operations today and in the future. Table 3 sets out the Department's performance against the 2004 Spending Review Public Service Agreement targets, and the Defence Procurement Agency's performance against its complementary Key Targets. This performance has been certified by the National Audit Office. In 2005-06, for the first time, the Department and the Defence Procurement Agency met all the acquisition targets.

2004 Spending Review Public Service Agreement Targets

136. In the 2004 Spending Review, the Defence Public Service Agreement target for equipment acquisition was amended to cover a much broader range of projects than had been the case in previous Public Service Agreements, in order to provide a better and more comprehensive picture of the performance of the Equipment Programme overall. Previously it had only included the twenty largest projects in development and manufacture that were covered by the annual Major Projects Report. It now includes all projects with a capital value greater than £20M, that have passed their main investment decision point but not yet achieved their In-Service Dates at the start of the financial year; this equates to 46 projects in all in 2005-06. This is also the target set used to measure the performance of the Defence Procurement Agency. In 2005-06 the equipment delivered showed minimal increase in costs or project slippage levels overall. The twenty projects covered by the Major Projects Report showed a 0.1% average annual cost decrease against their estimated cost at beginning of the year, which met the value for money target set in the 2002 Spending Review.

Defence Procurement Agency Key Targets

137. Although the Defence Procurement Agency's performance is measured against the same target set of projects used to measure the Department's acquisition performance, the Department recognised the degree of challenge involved by setting slightly less demanding targets on the Agency, for cost and time, in its Key Targets and treating the Public Service Agreement targets for variation of project In-Service Dates and project Costs as stretch targets The Defence Procurement Agency (DPA) was also set targets for asset delivery and a range of efficiency measures. It met all its Key Targets in 2005-06 for the first year since its establishment. Further details on the DPA's performance can be found in the *DPA Annual Report and Accounts*. Summary information on the performance of major equipment projects by capability area is contained in Annex G and detailed information on these projects is continued in the annual *Major Projects Report* published by the National Audit Office.

European Space Agency Ariane 5 rocket that will be used to launch Skynet 5 satellites (photo: ESA)

Table 3: PSA and Defence Procurement Agency Targets and Achievements

	2005-06	2004-05	2003-04
Predicted achievement of Key User Requirements[1]	97%	N/A	N/A
Met	97%	N/A	N/A
Equivalent DPA Key Target	*97%*	*97%*	*98%*
Met	*97%*	*99%*	*99%*
Average In-Year slippage of In-Service Dates not to exceed[1]	0.7 months	N/A	N/A
Met	0.7 months	N/A	N/A
Equivalent DPA Key Target	*1.0 months*	*0.9 months*	*0.5 months*
Met	*0.7 months*	*0.9 months*	*2.4 months*
Average In-Year variation of costs not to exceed[1]	0.4%	N/A	N/A
Met	0.2%	N/A	N/A
Equivalent DPA Key Target	*0.6%*	*0%*	*0%*
Met	*0.2%*	*-2.2%*	*2.7%*
Asset delivery achievement (percentage by value of planned asset deliveries) [2]	*>90%*	*85%*	*N/A*
Met	*107%*	*100%*	*N/A*
i) Asset Turnover Ratio (months) [3]	*<83 months*	*<70 months*	*N/A*
Met	*72 months*	*59 months*	
ii) Assets delivered per £ of Operating Costs [4]	*>£13.20*	*>£10.72*	*N/A*
Met	*£15.23*	*£14.36*	
iii) Assets produced per £ of Operating Costs [5]	*>£23.16*	*>£16.23*	*N/A*
Met	*£23.83*	*£19.13*	

Notes:
1. PSA Target set changed from 2005-06 to covered all equipment over £20M that have passed their main investment decision point, but not yet achieved ISD at the start of the financial year, in line with DPA Key Targets. Performance against the SR2002 PSA Targets for 2003-04 and 2004-05 was measured on a different and not fully comparable basis.
2. Key Target introduced from 2004-05.
3. This is an approximation of how many months assets/equipment sit on the DPA balance sheet before they are finished and delivered. A decreasing number indicates improving efficiency.
4. This measures the assets / equipment delivered to the DPA's customers against the DPA's operating costs. An increasing number indicates improving efficiency.
5. This measures the assets added to the Balance Sheet over DPA's operating cost. An increasing number indicates improving efficiency.

Deliveries and key contacts placed

138. The Defence Procurement Agency delivered new equipment valued at £3.3 billion (£8.3 billion[1] in 2004-05), representing 107% of the asset value planned for delivery in-year against a target of 90%. Nine projects were formally accepted into service. Key milestones included:

- delivery of twelve Typhoon combat aircraft to the RAF;

- delivery to the RAF of over 200 combat-proven Storm Shadow cruise missiles and completion of delivery of ASRAAM air to air missiles;

- delivery of several hundred Brimstone anti-armour weapons to the RAF and achievement of Brimstone full operational capability;

A Typhoon two seat trainer

[1] This includes work relating to Typhoon development. See paragraph 222 of *Annual Report and Accounts 2004-05*.

Soldiers using Bowman

HMS Daring being launched in Glasgow

- acceptance into Army service of the Javelin medium-range anti-tank missile, four months ahead of schedule, and delivery of missiles and launcher units;

- acceptance into service by the Royal Navy of the Sonar 2087 submarine hunting system, five months ahead of schedule;

- delivery to the Armed Services of more than 190 wheeled fuel and water tankers;

- deliveries of the air mobile Cormorant Joint Rapid Reaction Force command system and the Joint Operational Command System;

- delivery of Seawolf air defence missiles to the Royal Navy, and High Velocity and Rapier air defence missiles to the Army;

- delivery of over 9,000 Bowman radio units;

- launch of HMS Daring, the first Type 45 Destroyer;

- launch of the landing ships HMS Cardigan Bay and HMS Lyme Bay;

- award of a £750M contract to upgrade the Royal Navy's Merlin anti-submarine helicopter force;

- award of a £700M contract for demonstration and manufacture of the Watchkeeper advanced battlefield surveillance system;

- award of a £700M, 15-year, Private Finance Initiative contract to provide plant equipment for the Armed Forces;

- award of contracts for the Falcon battlefield communications network, improved target acquisition and night vision equipment for Apache helicopters, new advanced naval training systems, self defence guns for warships, and the long range, precision strike Guided Multiple Launch Rocket System;

- award of a series of risk-reduction contracts on advanced technologies that may be used in Future Rapid Effects System armoured fighting vehicles;

- announcement of a £1 billion programme at the Atomic Weapons Establishment, to ensure the safety and reliability of Trident warheads for the remainder of their service life;

- announcement of planned investment of £300M on developing the design of two new aircraft carriers to the point at which manufacturing can begin, the expansion of the aircraft carrier Alliance that will deliver them to MoD, and the agreement of the French Ministry of Defence to co-operate on the project; and,

- announcement of the decision to add a third satellite to the successful Skynet 5 satellite communications programme, to provide a longer service life.

Urgent Operational Requirements

139. The Urgent Operational Requirement (UOR) process is used to procure additional equipment capability urgently needed for specific operations. It aims to provide speedy and flexible procurement using a streamlined version of the Department's normal procurement procedures. As such it makes a significant contribution to today's operations. Over 90 UORs in support of operations in Iraq and Afghanistan were approved during 2005-06; further requirements continue to be progressed. Additional capital expenditure to support operations in Iraq in 2005-06 was £160M, and in Afghanistan was £51M. This mainly represents expenditure on UORs. The process has been very successful and 98% of UORs delivered to Iraq during the warfighting phase of the operation, and reported upon, have been found to be either effective or highly effective. Notable UOR successes include the provision of High Frequency communication systems in just four months, ensuring that British troops could safely oversee the Iraqi elections, and the rapid procurement of enhancedbody armour to protect our troops on the ground.

140. In June 2005 the House of Commons Public Accounts Committee 26th Report *Ministry of Defence: the rapid procurement of capability to support operations* complimented the MoD on the flexibility, speed and ingenuity shown in its approach to Urgent Operational Requirements. The Report concluded with recommendations on how to improve the smooth and effective procurement of UORs, the majority of which have been accepted and

implemented across the Department as appropriate. The most significant include the appointment of a Senior Responsible Owner for UORs and the implementation of a single UOR register that tracks every requirement from initial submission through to delivery and assessment of effectiveness. This tool has ensured that all UORs can now be tracked, managed and audited with ease.

CAPITAL INFRASTRUCTURE

141. The Department invests heavily in strategic infrastructure to support Defence outputs. In order to improve the decision making process regarding priorities for investment in infrastructure, the Department is brigading funding for major infrastructure within the Non Equipment Investment Plan (NEIP). In future planning rounds, the Department will be able to plan and prioritise investment in infrastructure against competing infrastructure proposals. The NEIP covers some 75 projects with a cost of around £2.5 billion of annual expenditure. This includes major Information System (IS) projects such as the Defence Information Infrastructure which will provide a coherent IS network across Defence; estate maintenance projects such as the Regional Prime Contracts, which cover the maintenance of the Department's estate; and estate modernisation programmes such as Project SLAM, which will improve the standard of single living accommodation.

PRIVATE FINANCE INITIATIVE

142. The Private Finance Initiative (PFI) has become a well-established delivery tool in the provision of innovative and efficient services for Defence. We remain committed to involving the private sector where appropriate, and using PFI where the requirement is for long-term services based around the provision or refurbishment of a capital asset that can be funded by third-party finance. During 2005-06, we published new guidance on the PFI procurement process and consulted industry in developing the new MoD project agreement based upon Standardisation of PFI Contracts version 3. Standardisation and improvements made to the procurement process will lead to better value for money and drive down the length of the bidding process and bid costs. We signed three more deals in

2005-06, with a capital value of £1,398M (see Table 4), bringing total private sector capital investment, in Defence, through PFI to over £5.5 billion. Further details on signed PFI transactions are provided in note 27 to the Departmental Resource Accounts on page 230.

143. We also initiated a review of all PFI projects in construction and the early years of operation, with total contract costs in excess of £19 billion, to assess how PFI has performed to date for the MoD. The structure of the review was developed with the National Audit Office and Partnerships UK. It concluded that:

- PFI in the MoD substantially delivers projects on time and within budget. All projects were delivered on budget. All except three were delivered within two months of the agreed date;

- PFI projects in MoD are performing well and are delivering the services required. All of the project teams surveyed reported that the performance of their PFI project was satisfactory or better. Three quarters of project teams rated the performance of their PFI project as good or very good; and

- Long term PFI contracts in MoD are flexible enough to accommodate future change and to deliver on a sustained basis. The review identified that 85% of projects reported that their PFI contracts were suitably flexible to accommodate change and had effective change management mechanisms.

144. In June 2006 we won four major awards at the Public Private Finance Awards, including the Grand Prix prize for the best PFI project in operation from across all sections which was awarded to the Heavy Equipment Transports project. These awards provide independent recognition that PFI is working well in the Defence sector. We have a robust and diverse forward PFI programme (see Table 5) with an estimated capital value of approximately £6 billion.

Table 4: PFI Deals Signed in 2005-06	
Project Name	Estimated Capital Value[1] (£M)
'C' Vehicles[2]	114
Portsmouth 2 Housing PFI	27
Allenby Connaught[3]	1,257

Notes
1 Based on private sector's capital investment where known (or otherwise the capital value of the Public Sector Comparator).
2 Earthmoving and Specialist Plant, Engineer Contractors and Materials Handling services.
3 Redevelopment of barracks in Aldershot and Salisbury Plain areas, and long-term provision of associated support services.

Table 5: Major PFI Projects in Procurement as at 31 March 2006

Project Name

Combined Aerial Target System

Corsham Development Project

Future Provision of Marine services

Future Strategic Tanker Aircraft

Northwood Public Private Partnership

RAF Brize Norton Service Families Accommodation

Royal School of Military Engineering

Defence Training Review

UK Military Flying Training System

INTEGRATING FUTURE CAPABILITIES

145. The introduction of new and enhanced military capability does not simply mean the purchase of new equipment. It also involves the integration of equipment with all the other components that contribute to Defence capabilities: Training, Concepts and Doctrine, Organisation, Personnel, Infrastructure, Information and Logistics. These components are known as the Defence Lines of Development and the Interoperability is also considered when any of them is being addressed. Directors of Equipment Capability are accountable for the coherent delivery of all components of new or enhanced military capability in the programmes for which they are responsible. Five major, equipment-led capability change programmes (UK Military Flying Training System, Medium Weight Capability, Rotorcraft Capability, Combat ID and Carrier Strike), which have individual projects of significant complexity at their core and/or requiring integration have Senior Responsible Owners responsible to the Defence Managment Board for the coherent through-life development and management:

- The UK Military Flying Training System programme issued an Invitation to Negotiate in March 2005 and received industry bids in August 2005. (See paragraph 193);

- Several Rotorcraft Capability improvement projects were approved. We placed contracts to upgrade Merlin Mk1 helicopters to ensure continuity of capability and introduce an open-systems architecture, and to establish a single configuration baseline for the Chinook fleet to reduce its overall support cost, as well as contracts to support the Chinook and Merlin fleets;

- Four Future Rapid Effects System contracts were awarded for Technical Demonstration Programmes in January 2006, to look at Chassis Concepts, Light Bridging Concepts, Integrated Survivability, and Electric Armour. These will inform decisions on which technologies will be used for the Army's next generation of armoured fighting vehicles. We also awarded contracts to upgrade the existing fleet of FV430 vehicles and entered a Partnering Agreement to improve the reliability, availability and effectiveness through life of our existing Armoured Fighting Vehicles fleets;

- A key Combat ID demonstration was completed providing clear direction to the programme and helping ensure interoperability with US forces. The March 2006 NAO report on *Progress in Combat Identification* highlighted the good progress we have made on major equipment systems, including the ASTOR surveillance system, the Friend or Foe air identification system and other systems to improve situational awareness at sea, on land and in the air;

- The Carrier Strike programme (which comprises Joint Combat Aircraft, Future Carrier, Maritime Airborne Surveillance and Control and other enabling projects) remains on track. Both Joint Combat Aircraft and the new aircraft carriers are approaching Main Gate decision points in 2006-07. Access to the data necessary to support and operate the Joint Strike Fighter independently is fundamental, as the Minister for Defence Procurement has emphasised to the US Administration and the Senate Armed Services Committee. In December 2005, we announced that we have committed £300M to develop the design of the ships to the point at which manufacturing can begin and that the Aircraft Carrier Alliance team would be expanded. Plans for construction and assembly of the carriers at Alliance members' yards have also been agreed.

ACQUISITION REFORM

Defence Industrial Strategy

146. The *Defence Industrial Strategy* White Paper in December 2005 set out a significant acquisition reform agenda, which is now being implemented. The strategy recognises that acquisition is evolving, and that the acquisition environment is becoming more complex and demanding. It provides greater visibility of our forward plans to inform industry's own planning, explains how we will take into account broader industrial issues in our acquisition decisions and sets out how we, and industry, need to change. This change programme is built around improving: through-life relationships with industry; the

delivery of integrated solutions; innovation, agility and flexibility; consistency in our approach; and professional delivery skills. Further information on the Defence Industrial Strategy is provided in the essay on page 85. We are conducting a high level review into the extent to which Defence processes, structures, and organisations impede our ability to deliver lasting and transformational change and how they may need to be adjusted.

147. The change programme is being driven by the Acquisition Policy Board chaired by the Minister for Defence Procurement. It is building on the significant progress already achieved by Smart Acquisition, the Defence Logistics Transformation Programme and DPA Forward. We published *Defence Values for Acquisition* in the revised *Acquisition Handbook* in October 2005, setting out the behaviours needed to deliver and maintain improvements in acquisition. We are working to ensure that these are reflected in our approach to project and programme management, and embedded throughout Defence, including in our decision-making and performance assessment. To help establish best practice in through-life capability management, we are taking forward two 'Pathfinder' programmes for Sustained Armoured Vehicle Capability and Surface Combatant Capability. As part of the Office for Government Commerce's wider cross-Government initiative, we have established the Programme and Project Delivery Centre of Excellence, to provide a strong lead and driving force for improving programme and project delivery across Defence.

DPA Forward

148. DPA Forward provided much of the foundation from which Department-wide changes under the Defence Industrial Strategy are being taken forward. It was launched in October 2004 to help the Defence Procurement Agency deliver projects more consistently in accordance with Smart Acquisition principles and ensure that equipment is routinely delivered to performance, cost and time targets. It is focused on re-invigorating application of Smart Acquisition principles by improving processes and developing new ones. In November 2005, the Office of Government Commerce conducted a formal Peer Review of the programme, which confirmed significant achievements in joint working between the Defence Procurement Agency and the Defence Logistics Organisation, Project Review and Assurance, Key Supplier Management, More Effective Contracting, and Performance Management. The review also recommended that more needed to be done in areas such as individual project governance, benefits measurement and programme communications, and that the programme should be restructured to increase focus on what remains to be achieved. DPA Forward's priorities have now been realigned in line with these recommendations and the conclusions of the Defence Industrial Strategy, to ensure it complements and supports the wider change programme.

Key Supplier Management

149. Key Supplier Management has improved the coherence of our strategic engagement with our most important suppliers. It also provides a structured way to measure and promote improvements in project performance and enhances our capability as an intelligent customer to produce better informed major investment decisions. We are working to increase our knowledge of the full Defence industrial supply chain, and in particular to understand better where important capabilities may be at risk. We also expect our top suppliers to demonstrate a more strategic and inclusive approach to their respective supply networks that recognises their contribution to the overall Defence effort and to cost-effective through-life capability delivery.

DEFENCE EXPORTS

150. The Defence Industrial Strategy confirmed the Government's continuing strong support for legitimate Defence exports and outlined the benefits to Defence from such sales. UK Defence exports contracts worth £4 billion were signed in 2005. With the support of the Defence Export Services Organisation, UK companies won several major orders. In particular, Augusta Westland, in partnership with Lockheed Martin, won the contract to supply the US101 helicopter, a variant of the EH101, for the US Presidential Flight, against competition from Sikorsky, which had provided the aircraft for this flight for some forty years. Agreement was reached to begin full-rate US production of M777 Howitzers, developed by BAE Systems and assembled under licence in the US by BAE Systems North America from parts manufactured in the UK and US. In December 2005 we signed an understanding with Saudi Arabia that will lead to a greater partnership in modernising its Armed Forces and sustain the Defence equipment relationship for many years to come, including the supply of Typhoon aircraft to replace the Tornado aircraft in service with the Royal Saudi Air Force. Orders were also secured for twelve A400M aircraft from South Africa and Malaysia. Three Type 23 frigates recently withdrawn from Royal Navy service were sold to Chile.

EH101 variant to be supplied for the US Presidential flight

FURTHER SOURCES OF INFORMATION

151. Additional Information on Future Capabilities and Infrastructure is available from the following sources:
– quarterly PSA reports to HM Treasury at www.mod.uk;
– *UK Defence Statistics 2006* available at www.dasa.mod.uk (from September 2006);
– *Defence Procurement Agency Corporate Business Plan 2005* available at www.mod.uk;
– *DPA Annual Report and Accounts 2005-06* available at www.mod.uk (from July 2006);
– the Public Accounts Committee 26th Report *Ministry of Defence: The rapid procurement of capability to support operations* (HC 70 on 30 June 2005) available at www.publications.parliament.uk;
– *Annual Report on United Kingdom Strategic Export Controls* published in July 2005 available at www.fco.gov.uk;
– NAO Report: *Driving the Successful Delivery of Major Defence Projects: Effective Project Control is a Key Factor in Successful Projects* (HC 30 on 19 May 2005) available at www.nao.org.uk;
– NAO *Major Projects Report 2006* (HC 595-I on 25 November 2005) available at www.nao.org.uk;
– NAO Report *Progress in Combat ID* (HC 936 on 3 March 2006) available at www.nao.org.uk;
– NAO Report *Using the contract to maximise the likelihood of successful project outcomes* (HC 1047 on 7 June 2006) available at www.nao.org.uk;
– *Defence Industrial Strategy* White Paper (Cm 6697 on 15 December 2005) available at www.mod.uk;
– *Defence Departmental Investment Strategy* available at www.mod.uk;
– *Enabling Acquisition Change: An examination of the Ministry of Defence's ability to undertake Through Life Capability Management* available at www.mod.uk;
– *The Acquisition Handbook* (Edition 6, October 2006) available at www.mod.uk;
– Delivering Security in a Change World: Future Capabilities available at www.mod.uk.

Essay: The Defence Industrial Strategy

The UK Armed Forces' requirements have changed substantially over the past 15 years, shifting from the provision of platforms for relatively discrete tasks, to flexible systems that can operate in a networked environment. As the pace of technological change has accelerated, particularly in information and communication systems, the need to ensure these systems remain able to fulfil their tasks and meet changing threats throughout often very long service lives, puts a premium on the ability to upgrade equipment through-life. In parallel, industrial consolidation has continued, and sustaining competition to meet domestic requirements has become increasingly difficult in some sectors. Despite this, in several sectors, there will be substantial overcapacity in production facilities in the UK Defence industry following the entry into service of major projects. While we can source significant elements of our equipment from overseas, we nevertheless need to recognise the extent to which overseas supply can constrain the choices we make about how we use our Armed Forces. All this means that the size, shape, and skills of the UK Defence industry (especially the systems engineering skills, at all levels of the supply chain, to maintain and upgrade equipment in-service) also need to change to meet the new demands and sustain the key industrial capabilities we need to keep, in the interests of national security, in the absence of regular, new, platform-based programmes.

The Defence Industrial Strategy (DIS) White Paper (Cm6697) in December 2005 outlined how, based on a clearer exposition of our potential requirements and planning assumptions, the UK Defence industrial base needed to respond to meet the challenges of the next decades and ensure that the capability needs of the Armed Forces can be met, now and in the future. The DIS is a demanding framework for action. For example, for industry it advocates substantial changes in the maritime sector to remove duplication and to nurture the high-end skills this country needs to maintain; in aerospace, to respond to the challenges and potential of new technology, including that relating to Uninhabited Air Vehicles, and the likely downturn in new manned aircraft design and production programmes; in the complex weapons sector, to maintain key skills in an era when we will have completed much of our shift towards precision-guided weapons; and to achieve real improvements in support to our armoured fighting vehicles fleet. The DIS promotes action now, to address these issues in good time, and plan for an effective transition, rather than facing crises in a few years time.

We are asking industry to change its way of working; to plan more effectively and jointly for the long term, and to commit to the real changes in business models, behaviours and cultures required. But in asking industry to change, we have to recognise that Defence needs to change as well. Real commitment on both sides will be necessary to make DIS a success, and we are already working to put it into action. Since the publication of the DIS we have appointed the Enabling Acquisition Change Team Leader, reporting to the Permanent Under Secretary, to conduct a review from first principles of the wider acquisition construct. This was completed in June, and the conclusions were announced on 3 July 2006, of which the most significant was that the Defence Procurement Agency and Defence Logistics Organisation will be merged into a single integrated procurement and support organisation. The Directorate of Defence Acquisition, reporting to the Acquisition Policy Board chaired by Lord Drayson, Minister for Defence Procurement, is coordinating all of the various urgent improvements to which we have, as well as the sectoral work, and is reporting good progress to date. A Complex Weapons Team has been set up and is engaging well with industry to tackle the challenging situation in that sector. Two working groups are conducting the further analysis on technology which we recognised would be needed, including one jointly chaired by industry to understand better the innovation process in the Defence industry; and work is well underway on the two Pathfinder projects described in Chapter C1 of the DIS White Paper. More information on internal change work undertaken as part of DIS implementation can be found at paragraphs 146-149 and at www.mod.uk

These examples demonstrate our commitment to the implementation of the DIS. We are working hard with industry to meet all of the specific milestones that we set out in Chapter C2 of the DIS White Paper, many of them in the second or third quarter of 2006, recognising that it is for companies themselves to deliver on the industrial changes we believe are required. Having delivered the DIS in 2005, we are now looking to apply it to transform Defence procurement in 2006, and for industry to respond to the information the DIS offers, at all levels of the supply chain. If we succeed, we will see the results in our improved performance from 2007 onwards and real benefits for those parts of industry which have engaged actively.

FUTURE PERSONNEL PLANS

Objective: Develop the skills and professional expertise we need for tomorrow.

Performance Measures and Assessment

Deliver the Service Personnel Plan – More holisitic and flexible military personnel administration systems:

- Joint Personnel Administration (JPA) rolled out to RAF in March 2006 on time and on budget;
- Risk reduction decision taken to delay JPA roll-out to Royal Navy until October 2006 and Army until March 2007 to integrate better with roll-out of Defence Information Infrastructure.

Deliver the Service Personnel Plan – Develop the military personnel package:

- New Armed Forces Pension Scheme 2005, Reserve Forces Pension Scheme 2005 and Armed Forces Compensation Scheme introduced April 2005;
- Armed Forces Redundancy Scheme 2006 introduced April 2006;
- Criteria broadened for Long Service Advance of Pay to help Service personnel buy their own homes;
- Increase in the basic salary of 3.0% for military personnel, and 3.3% for Privates, Lance Corporals and their equivalents, as recommended by Armed Forces Pay Review Body;
- Introduction of Armed Forces Bill to Parliament in November 2005 to create single system of Service law.

Deliver the Service Personnel Plan – Better Understanding of People:

- Research programme continues.

Deliver the People Programme:

- Production of first Civilian Workforce Plan in October 2005;
- Online new Human Resource Management System achieved initial operating capability in April 2006, on time and on budget;
- New redeployment pool created July 2005;
- New internal recruitment service launched December 2005-June 2006;
- New People, Pay and Pensions Agency launched in April 2006;
- New Corporate Human Resources and Human Resources Business Partner groups launched April 2006.

SERVICE PERSONNEL PLAN

152. The Service Personnel Plan provides a framework for the coherent delivery, now and in the future, of the different elements of Service personnel policy needed to support Armed Forces personnel in their delivery of operational capability over the next 15 years. Its main objectives, many of which are reported elsewhere in the *Annual Report and Accounts,* are to:

- develop a more holistic and flexible manpower accounting and planning administration system; this is being taken forward in particular through the Joint Personnel Administration programmes;

- exploit all sources of personnel provision; this includes work to increase harmony in using Regular and Reserve personnel (see paragraph 180-182), and activities to stimulate and encourage young people to join the Armed Forces (see paragraph 83-90);

- deliver the Training and Education change programme (see paragraphs 187-193);

- deliver the Defence Health Change Programme (see paragraphs 211-215);

- develop the overall military personnel package appropriate for the future context (for instance, through improvements to pay and conditions of service);

- develop a more coherent Defence Estate (see paragraphs 299-312); and

- develop a better understanding of people to inform future policies and resource decisions.

153. During the year, the Service Personnel Plan was reviewed to ensure that it remained consistent with Defence Strategic Guidance and continued to reflect the challenges and opportunities that changing demographics, cultural and societal norms and peoples' expectations and aspirations present to our aim of delivering and sustaining sufficient, capable and motivated personnel across the three Services. The main focus of work was to support individual choice for Service personnel through the development of innovative, flexible, imaginative and affordable benefit packages for individual and family mobility and stability throughout a Service career. In particular we made progress with strategies for future living accommodation requirements and future personnel career packages for both Reserves and Regular personnel, and in developing Health and Training and Education strategies. The Service Personnel Plan 2006 will be published later this year, along with revised Personnel Policy Guidelines articulating the policy baseline from which the plan is developed.

154. The Service Personnel Balanced Scorecard was reviewed in parallel, to track and reflect better progress against the Plan's objectives. This feeds directly into the Defence Balanced Scorecard used by the Defence Management Board. Within the Department's new Business Management System we also worked with the Services, the Armed Forces Pay and Administration Agency and the Veterans Agency to improve the effectiveness and efficiency of the key personnel processes that Top Level Budget Holders use to deliver their outputs.

Royal Marines personnel

Joint Personnel Administration

155. Joint Personnel Administration (JPA) is a major change programme to revolutionise the way the Armed Forces are administered by harmonising and modernising military personnel information systems. The programme is being delivered by the Armed Forces Personnel Administration Agency and EDS Defence Ltd. By simplifying administrative regulations and processes, automating much of the work and replacing many of the old computer systems with a single, modern Information Technology package, over 1,400 jobs have been removed from the administrative organisations of the Armed Forces. Together with associated business improvements, this will generate savings of approximately £100m per year in steady state.

156. In February 2006 we took a conscious de-risking decision to delay slightly the JPA launches for the Royal Navy and the Army from June and November 2006, to integrate them better with roll-out of the Defence Information Infrastructure. We now plan to roll-out JPA to the Royal Navy in October 2006, and to the Army in March 2007. However, JPA was successfully rolled to over 48,000 RAF Service personnel throughout the world in March 2006, on time and on budget, and the first RAF pay roll using JPA was successfully achieved on 28th April as planned. As with any project of this complexity, there were invariably a small number of technical issues to overcome when the system went live. Although the system performed within satisfactory parameters on initial roll-out to RAF personnel administrators, when self-service users were granted access the volume of early transactions caused system performance to slow to unacceptable levels. A number of fine-tuning fixes were

made that allowed the progressive introduction of additional functionality, whilst providing core processes and maintaining acceptable system performance levels. By mid-May, personnel staff and self-service users had full access to the system with no degradation to the on-line service. There were also a small number of start up issues on the first pay run, all of which were resolved by the end of May. We worked hard to ensure that the small number of individuals affected were not financially disadvantaged.

Military Personnel Package

157. Two new pension schemes for Regulars (Armed Forces Pension Scheme 2005) and Reserves (Reserve Forces Pension Scheme) were introduced for new entrants from 6 April 2005. Personnel in service at that date were given an Offer To Transfer to the new schemes from 6 April 2006. By 31 March 2006, over 85% of personnel had engaged actively in this exercise, which is significantly higher than comparable pensions exercises elsewhere. The new Armed Forces Compensation Scheme was also introduced from 6 April 2005 for injuries, illnesses or deaths caused by Service from that date. The new Scheme covers all Regular (including Gurkhas) and reserve personnel and for the first time allows claims from in-service personnel to be considered. New redundancy terms for members of the regular Armed Forces were announced in June 2005. The terms as set out in the Armed Forces Pension Scheme 1975 will remain unchanged until 31 March 2008, but will change for those leaving after that date. A new scheme, known as the Armed Forces Redundancy Scheme 2006, will come into force on 6 April 2006 for those who joined the Armed Forces after 5 April 2005 and those in service on that day who transferred to AFPS 05.

158. We aim to provide personnel with a choice of suitable accommodation through both private and Service accommodation, and from 1 December 2005 we broadened the eligibility criteria for Long Service Advance of Pay to help those Service personnel who wish to buy their own houses.

159. In February 2006, the Armed Forces' Pay Review Body (AFPRB) recommended an increase in the basic military salary of 3.0% for military personnel up to the rank of Brigadier or equivalent, with an increase of 3.3% for Privates, Lance Corporals and their equivalents on the lower pay range. This was based on broad comparability with similarly-weighted civilian jobs and took into account a number of considerations, including recruitment, retention and motivation of the Armed Forces. The AFPRB also recommended an increase of 3% in the rates of specialist pay (such as Flying Pay, Submarine Pay and Diving Pay) and compensatory allowances (such as separation allowances) and an increase in accommodation and food charges. These recommendations were accepted by the Government and came into effect from 1 April 2006. In March 2006, the Senior Salaries Review Body recommended that the basic pay of senior officers in the Armed Forces should also rise by 3%.

160. For the first time in over fifty years the legislation that underpins Service law is being completely re-written. The intention is to support operational effectiveness by harmonising and modernising the military justice system under a single system of service law, applicable across the Royal Navy, the Army and the Royal Air Force. The Armed Forces Bill was introduced to Parliament on 30 November 2005. Further details are contained in the essay on page 90.

Better Understanding of People

161. We are undertaking a focused programme of research projects to gain a better understanding of behaviour and how changes, both internal and external to the Armed Forces, are likely to affect issues such as recruitment, morale and retention. This includes research to identify how the aspirations and expectations of personnel with regard to issues such as pay, allowances, housing and family support change as they progress through their careers, which informs policy development in these areas. We are also undertaking research, in partnership with the Equal Opportunities Commission, on the nature and extent of sexual harassment in the Armed Forces (see paragraphs 285-287).

CIVILIAN PERSONNEL DEVELOPMENTS

People Programme

162. The People Programme is a major change programme which is implementing the new strategy for civilian personnel that was launched in 2002. It has four themes:

- developing the skill and behaviours that individuals will need in the future (set out in paragraphs 194-200);

- developing managers' ability to deliver through their teams (paragraph 197);

- modernising the delivery of personnel services; and

- modernising Human Resources to move from policing and processing to strategic planning and support.

163. The purpose of the civilian personnel process is to deliver sufficient numbers of capable and motivated civilian employees, taking account of relevant legislation and trends in the national labour market and recognising the value of a diverse workforce. The first annual Civilian Workforce Plan was produced in October 2005. This aims to define and direct the overall programme to develop the civilian contribution to Defence. It analysed the changing context in which the civilian workforce will make its contribution to Defence, made a number of deductions about this context, and reviewed the fitness of the People Programme to deliver the workforce that the Department needs now and in the future.

164. The programme to deliver modernised personnel services through the online Human Resource Management System achieved its first year targets for time, cost and performance as set out in the Human Resource Service Delivery Main Gate Business Case. Initial Operating Capability was achieved in April 2006, providing services such as resourcing, development support, performance management and time/absence reporting) on time and on budget. The take-up of online services continues to rise, with nearly 70,000 employees having now registered their emergency contact details. For those without online access, telephone, fax or mail provide an equivalent service. Information Systems infrastructure issues affected system performance and adjustments to the service roll-out schedule were made to stop further degradation of system performance and allow time for these to be addressed. The programme remains on track to provide Full Operating Capability by April 2008.

165. In July 2005 a new re-deployment pool was created to handle those displaced by reduction of 11,000 civilian posts across Defence. In December 2005 a modernised internal recruitment service was launched, phased in up to June 2006, making use of on-line self service wherever possible. This is the first of three main phases in the build up of the new People, Pay and Pensions Agency launched on 3 April 2006. Work to establish the complementary new Corporate Human Resources and Human Resources Business Partner groups continued during the year. This included finalising roles and numbers, and resourcing the new posts ahead of the formal launch in April 2006. A range of initial training has been provided to help prepare business partners for these new roles.

FURTHER SOURCES OF INFORMATION

166. Additional Information on Future Personnel Plans is available from the following sources:
– quarterly PSA reports to HM Treasury at www.mod.uk;
– *UK Defence Statistics 2006* available at www.dasa.mod.uk (from September 2006);
– information on the Armed Forces Pension Scheme 2005, the Reserve Forces Pension Scheme 2005 and the Armed Forces Compensation Scheme at www. veteransagency.mod.uk.

Essay: Armed Forces Bill

The Armed Forces Bill, now before Parliament, will replace the current Service Discipline Acts (the Naval Discipline Act 1957, the Army Act 1955 and the Air Force Act 1955) with a single system of service law that will apply to the personnel of all three services. Although a more modern piece of legislation, the Bill does not set out to make radical changes for the sake of it. From the start of work in 2001, our intention has been to support operational effectiveness by moving to a single system of Service law. This covers the full range of disciplinary work from the internal disciplinary process, which is normally the responsibility of unit commanding officers, right through to courts martial. The Bill covers some other important areas such as the right of personnel to complain to the Service Boards; Service Inquiries; and a range of miscellaneous matters such as recruitment, enlistment and terms and conditions of service. Details can be found at www.armedforcesbill.mod.uk.

From the beginning we worked with stakeholders to develop the policy providing the foundations of the Bill. As part of this work we examined the current Service Discipline Acts, and in particular the differences between them, so they could be harmonised. We also looked at all of the sections in other pieces of legislation that relate to the Armed Forces, to see where these needed to be updated or repealed. And we spoke to members of each of the Services at all levels, Defence ministries of other nations, and interested parties such as Ministry of Defence lawyers.

Some issues were straightforward, either because the three Services operated in much the same way or because the provisions were so clearly out of date that agreeing modernised provisions, where appropriate using civilian law comparators, was reasonably simple. There were also areas of significant difference which required careful consideration to reach solutions that jointly met the different needs of all three Services and yet still recognised the individual ethos of each. One example was that, for historical reasons relating to ships being at sea for months at a time and unable to communicate with the Admiralty, Royal Navy commanding officers have powers to deal with a very wide range of criminal offences and may award periods of detention up to 90 days. In the Army and the Royal Air Force, commanding officers have powers to deal with a more limited number of criminal offences and to award a maximum of 60 days detention (and then only with the agreement of higher authority). Providing the Armed Forces with a single system that meets the all their needs took detailed analysis of their different summary justice systems. In achieving this, we have reduced the powers of Royal Navy commanding officers and slightly increased those of their counterparts in the Army and the Royal Air Force.

The Bill is a much more significant piece of legislation than the normal five-yearly Armed Forces Bills. It is the largest and most complex piece of legislation that the Department has ever sent to Parliament: with 378 clauses and 17 schedules on introduction, it took almost four years to prepare and two years to draft. It was introduced to the House of Commons in November 2005, and committed to a Select Committee the following month after its second reading debate. The Select Committee took evidence from witnesses; visited units in Cyprus, Oman and Iraq, as well as at home in Colchester and Windsor; and examined the Bill's proposals in detail. Its report, published on 9 May, endorsed all the key discipline proposals. The Bill had its remaining stages in the Commons on 22 May and has now moved to the House of Lords. All being well, Royal Assent should be received by November 2006.

Once the Bill is approved (as the Armed Forces Act 2006) we will move on to its implementation. The target date for full implementation is December 2008. Preparation began in 2005 with the first steps to quantify the secondary legislation, regulations, manuals and guidance needed before we can get to grips with training the Armed Forces in the full range of new provisions and procedures. All of this will be crucial to ensure that the legislation will work effectively in practice.

SCIENCE INNOVATION AND TECHNOLOGY

Objective: Exploit new technologies.

Performance Measures and Assessment

Support to Operations:

- Establishment of MoD Counter Terrorism Science and Technology Centre;
- Provision of Science Advisers to commanders in the field and operational headquarters;
- Delivery of innovative technological solutions through the equipment programme.

Effective support to current and future Equipment Programmes:

- Customers' critical success factors met;
- Timely and high quality advice provided to business managers;
- Research and Technology reflected in the Defence Industrial Strategy;
- Research collaboration with allies work was cost effective, coherent with Defence objectives, and complemented UK operational requirements;
- Improved investment scrutiny.

Research:

- Wide ranging review of Defence research addressing quality and alignment to Defence needs;
- Introduction of greater peer review of the research programme;
- Some £480M of research contracts awarded (£470M in 2004-05);
- Continued broadening of research supplier base. 25% of the relevant portion of the programme was competed (17% in 2004-05);
- Continued development of Defence Technology Centres and Towers of Excellence in partnership with industry and academia.

SCIENCE INNOVATION TECHNOLOGY TLB

167. The Science Innovation Technology Top Level Budget organisation is the focus for science, innovation and technology throughout Defence. Its work underpins our Defence capability by providing world class scientific support to decision making, developing and implementing technical solutions, supporting operations and reducing risk. Operational analysis supports policy development, decision making, resource planning, investment decisions and current operations. World-wide military and commercial technological developments are monitored to identify upcoming threats and opportunities to enhance our own Defence capabilities. International research collaboration with allies facilitates cost and risk minimisation and expands our research capabilities. Defence Research enhances existing technologies, identifies and develops emerging technologies, and supports their cost effective implementation whilst minimising risk.

SUPPORT TO OPERATIONS

168. We have always provided science and technology support to military operations. With the Armed Forces facing an increasing threat from improvised weapons and explosive devices we have been drawing on our Science and Technology resources. There are scientific adviser branches in the Permanent Joint Headquarters and the Warfare Centres. Deployed Scientific Field Teams with links back to Defence laboratories provide operations commanders with in-theatre advice as well as protective measures. We have taken forward other operationally related work, particularly on the detection of chemical and biological agents and enhanced medical treatment. We recognise that further benefit can be supplied beyond these niche areas and work is in-hand to enhance our ability rapidly to identify and counter emerging operational issues, if possible before they have an operational impact. Defence science and technology capability has also supported the relevant UK civil authorities and agencies in responding to terrorist attacks. In April 2006 we opened the MoD Counter Terrorism Science and Technology Centre at Porton Down to help address the growing threat from terrorism (see the essay on page 95).

EFFECTIVE SUPPORT TO CURRENT AND FUTURE EQUIPMENT PROGRAMMES

169. Effective science and technology helps deliver cost-effective military capability and enable effective acquisition. Recent analysis suggests that Defence research investment is a key determinant of equipment quality 10 to 20 years downstream, underpinning tomorrow's Armed Forces. It also has a wider economic benefit through supporting national competitiveness. We aim to identify and increase the proportion of Defence research used effectively in Defence Equipment and wider civil uses. During the year science and technology advice contributed to the development of the Defence Industrial Strategy and helped inform equipment capability management decisions and develop and exploit emerging technologies. Examples included hydrodynamic work to optimise the hull design for the Type 23 Frigate for

reduced fuel consumption without compromising capability; successful trials of the Zephyr high altitude long endurance Unmanned Aerial Vehicle (UAV) with the potential of flying continuously for months and performing surveillance and communications functions where satellites, manned and unmanned aircraft may not be available or suitable; and research into Defence networking performance to minimise the effects of congestion – particularly those deployed to operational theatres. Feedback from business and equipment programme managers suggests that the science and technology advice they receive meets their time, quality and focus needs.

The Zephyr UAV (photo from QinetiQ)

170. International research co-operation is a long standing mechanism to gain access to wider science and technology, share risk, develop interoperability and carry out Defence research more cost effectively. It is coherent with our Defence objectives, and complements our operational requirements and the Defence equipment programme. Allies benefit similarly, as such co-operative efforts make best use of the technological strengths of each partner. During 2005-06 we continued to work with international partners on collaborative research programmes to broaden capability and share the costs of meeting shared policy objectives. In particular we built further on our broad and effective research collaboration with the United States and forged closer strategic links with France. We are actively engaged in developing the European Defence Agency model as a vehicle for identifying areas for European research collaboration, which nations are free to engage in if they wish.

171. We also continued to work to improve the scrutiny process and the quality of business cases to facilitate better investment decision making. Initiatives during the year included greater emphasis on maturity of investment analysis and spend on risk reduction measures prior to the main approval point and the inclusion of historic trend analysis. The number of business cases requiring resubmission and the overall time required to gain approval both fell, suggesting an improvement in business case quality. Further improvements are required and work continues into improving cost and time estimation and the way business cases cover risk.

RESEARCH

172. The Defence research programme is managed by outputs to ensure that work is aligned to Defence needs and meets critical success factors. In its report on *The Management of Defence Research and Technology* the National Audit Office found that the Department has made much progress in developing new approaches to the management of Research. Success is measured by the satisfaction of output customers and from external peer review of the programme. A thorough review of the range, quality and alignment of much of the research programme has been undertaken and early results are encouraging. Clear customer supply relationships in the provision of Defence Research have delivered increased efficiency. We are seeking to increase the early sharing of Defence needs with industry to facilitate joint planning and the development of research roadmaps for important Defence technologies and capabilities. This will help us both to plan our investment and work cooperatively to build UK Defence capability.

173. During the year we awarded research contracts worth some £480M (£470M in 2004-05). Research during the year included:

- Early identification of infection with Biological Warfare Agents, substantially increasing the chances of survival and recovery by allowing earlier treatment;

- Lightweight Chemical Agent Detection helping protect Service personnel by providing rapid and accurate detection of chemical warfare agents. Advances were made in effectiveness, through life costs and improved environmental performance;

- Recombinant Factor VIIa (rFVIIa), a blood clotting drug, potentially providing battlefield casualties with enhanced survival times to enable evacuation to surgical facilities. Experimental evidence shows its use prolongs survival time by up to six hours after the onset of uncontrolled haemorrhage. It may also be of use in civil health treatment of trauma patients;

- The Interactive Trauma Trainer, a proof-of-concept computer application using computer games technology, enhancing the decision-making skills of trauma surgeons.

The Interactive Trauma Trainer

174. The delivery of high quality technology and technical advice requires access to world class suppliers. We seek to take advantage and extend our range of potential partners and suppliers by drawing on the excellence of the UK university research and technology base, the innovative sector of small and medium sized enterprises, as well as the established Defence industry. We are actively pursuing further competition in the supply of Defence Research to encourage innovation in the UK research supplier base and enhance value for money. In 2002-03 around 90% of MoD research was done in Dstl or QinetiQ. In 2004-05 17% of the relevant portion of the programme was competed, rising to 25% in 2005-06. By 2009-10 around 60% of the equivalent programme of research will be competed across industry and academia. We held a supplier day in June 2005, which attracted representatives of major Defence companies, small and medium sized enterprises, and academia. We also took forward measures to improve the management of Research suppliers. These include improved data and analysis on where research money is spent, monthly review of project performance, and the use of an external peer reviewer when assessing bids.

175. During the year we started a review cycle to look thoroughly and systematically at the quality of our research and development work. This will combine peer review, citations, assessment of objectives achieved and post project evaluations. External reviewers, sought through the Defence Scientific Advisory Council, assessed the quality of a large portion of our research projects. The early assessments are encouraging, and the broader understanding facilitates more effective and efficient management of the overall programme.

176. In its report on *The Management of Defence Research and Technology* the National Audit Office recognised that we have made progress in encouraging joint working with industry through the establishment of Towers of Excellence and Defence Technology Centres. Towers of Excellence are selective partnerships with industry and academia, directing resources into priority areas of technology research. The development of technology through to a final product and more general technology transfer to industry are a major benefit of operating Towers of Excellence. Defence Technology Centres are an alternative partnering approach jointly funded by MoD and industry (usually as consortia). The Centres are based around topics critical to Defence where investment is likely to produce significant returns. A range of suppliers, including small and medium sized enterprises and academia provide input to the Centres, which are managed to allow a flexible response to emerging needs and priorities. The MoD dominates Government investment in innovation based small and medium sized enterprises. The quality of advice and technology delivered continued to be very high.

177. The Defence Industrial Strategy highlighted the importance of Research and Technology as a vital enabler of our National Defence Capability. As such it was embedded throughout the Strategy. The chapter on 'technology priorities to enable defence capability' draws together the critical underpinning and cross cutting technologies that need to be sustained in the UK. It identifies as key tasks the need to maintain technological advantage to counter emerging threats, to develop knowledge management and systems integration skills, to recruit and retain skilled people and to enable technology insertion throughout equipment life. Implementation is overseen by the National Defence Industries Council's Research and Technology Sub Group. This is a mixed Government and industry forum with dedicated working groups on people (focussing on the recruitment and retention of the best scientists and engineers), innovation, and technology strategies. Further opinions are sometimes also sought from academia and small and medium sized enterprises.

The Lightweight Chemical Agent Detector

FURTHER SOURCES OF INFORMATION

178. Additional Information on Science Innovation and Technology is available from the following sources:
– *UK Defence Statistics 2006* available at www.dasa.mod.uk (from September 2006);
– information on Science Technology Innovation at www.science.mod.uk*;*
– *Defence Science and Technology Laboratory Annual Report and Accounts 2005-06* available at www.dstl.gov.uk;
– NAO Report *MoD: The Management of Defence Research and Technology* (HC 360 on 10 March 2004) available at www.nao.org.uk.
– *Defence Industrial Strategy* White Paper (Cm6697 on 15 December 2005) available at www.mod.uk.

Essay: The MoD Counter-Terrorism Science and Technology Centre

The Government is committed to using science and technology to counter terrorism. The events of 7 July 2005 demonstrated the seriousness of the threat at home. Overseas, the Armed Forces are facing increasing threats from asymmetric forces using improvised weapons and explosive devices. Such devices presently account for the greatest loss of coalition forces in Iraq. We have been making increasing use of our science and technology resources to counter such attacks, and this is now a larger part of the work of the MoD's Science and Technology staff.

In order to make the best use of the available resources, ensure that our existing programmes are coherent, and broaden the technical base on which we draw, we have now established a world-class Counter-Terrorism Science and Technology Centre. This will ensure that the best science and technology underpins our response to the threats posed by terrorism and serve as a unifying core for Defence laboratories, universities and industry to work together on counter-terrorism and national security projects. The Centre's governance structure is similar to those of the Defence Technology Centres which are designed to facilitate collaboration between the MoD, UK Defence industry, small and medium size enterprises and the universities, and have proved excellent vehicles for early exploitation of novel technology. This is of particular value in the context of countering evolving terrorist capabilities. The Director of the Defence Counter-Terrorism Science and Technology Centre is appointed by the MoD's Chief Scientific Adviser and reports to an Oversight Board including representatives from Defence, other Government Departments, industry and the universities.

The MoD Counter-Terrorism Science and Technology Centre achieved initial operating capability in April 2006, based in a new building at Porton Down. It is managed by the Defence Science and Technology Laboratory (Dstl), to take advantage of existing technical and business infrastructure, and is staffed by experts from Dstl and the Atomic Weapons Establishment. It is initially providing technical support on countering improvised explosive devices to counter-terrorism and security operations; on chemical, biological, radiological, and nuclear threat reduction; and on network analysis. Whilst it focuses on Defence requirements, it also supports other Government Departments engaged in counter-terrorism.

When fully operational in April 2007, the Centre will have the following roles:

- to help understand and define the science and technology contribution to solving problems arising from terrorism, supported by operational and scenario based analysis;

- to ensure coherence and focus in the scientific research underpinning our response to terrorism;

- to bring together existing capabilities from across Government, industry and academia to find science and technology-based solutions and draw in new contributors from the broader UK science and technology community;

- where required capabilities are not available, to provide facilities for teams of scientists from Government, industry and academia to develop new ones;

- to act as a focal point for potential science and technology suppliers;

- to facilitate access to and use of security-sensitive technologies and capabilities while protecting national security;

- to facilitate engagement with industry for transfer of technology and exploitation of UK intellectual property; and,

- to enable and focus international research collaboration within our extant multinational research framework.