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Committee of Public Accounts

Ministry of Defence: Battlefield Helicopters

Eighth Report of Session 2004–05

Report, together with formal minutes, oral and written evidence

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The Committee of Public Accounts

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Committee staff

The current staff of the Committee is Nick Wright (Clerk), Christine Randall (Committee Assistant), Emma Sawyer (Committee Assistant), Ronnie Jefferson (Secretary), and Luke Robinson (Media Officer).

Contacts

All correspondence should be addressed to the Clerk, Committee of Public Accounts, House of Commons, 7 Millbank, London SW1P 3JA. The telephone number for general enquiries is 020 7219 5708; the Committee's email address is pubaccom@parliament.uk.

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Summary

In October 1991 the battlefield helicopters of the Royal Navy, Army, and Royal Air Force were brought under a single "Joint Helicopter Command". The Joint Helicopter Command is responsible for training, standards, doctrine, and support for operations. In April 2004, the Department had an overall fleet of 357 battlefield helicopters to operate in support of land, amphibious, and Special Forces' operations.

On the basis of a Report from the Comptroller and Auditor General,[1] we took evidence from the Ministry of Defence (the Department) on three main issues: the scope for increased harmonisation in helicopter support and training; helicopter and equipment shortages and the procurement of the Chinook Mark 3 helicopter.

We found that the formation of the Joint Helicopter Command has avoided the duplication that occurred when the three services deployed their helicopters separately. Further progress can, however, be made in the harmonisation of training practices between the three services and the Department should review whether efficiencies could be gained from having a single body responsible for airworthiness rather than the three separate arrangements currently used. There are also striking differences in the command structures of the Royal Air Force (RAF) and Army. In Northern Ireland it takes 77 RAF officers to run 17 helicopters while the Army has 38 officers to run 34. The Department should consider whether the approach used by the Army should be the baseline for harmonisation.

As regards the number of helicopters, there remains an alarming gap, 20% to 38%, depending on how it is measured, in the numbers of helicopters needed and those available. The Department is no longer proposing to fill this gap and this will potentially increase risks, including the risk of overstretching equipment and pilots.

The gap in helicopter numbers has been exacerbated by the fact that the Department cannot use 8 Chinook Mark 3 helicopters purchased in 2001. The Department failed to specify what its requirements were for independently validating the manufacturers' software codes and therefore are currently unable to assure themselves that the helicopters can fly safely. Only 45 of 100 'essential elements' set out in the Department's requirement were actually specified in the contract. This was one of the worst examples of equipment acquisition that the Committee has seen.

1 C&AG's Report, *Ministry of Defence: Battlefield Helicopters* (HC 486, Session 2003–04)

Conclusions and recommendations

1. **The formation of the Joint Helicopter Command has led to efficiencies in the deployment of battlefield helicopters.** Previously capabilities were duplicated when the three services independently deployed helicopters on operations. For example in Bosnia in 1996 40% too many helicopters were deployed.

2. The Department is seeking to harmonise further single-Service practices in training and airworthiness. Although these are common airworthiness regulations, responsibility for applying them remains with the three Services. **The Department should review whether having a single organisation that decides whether a helicopter is airworthy and can enter service would be preferable to current arrangements.**

3. **It takes 77 Royal Air Force officers to run 17 helicopters in Northern Ireland while the Army has 38 officers to run 43.** Following on from its review of officer/non-commissioned officer aircrew the Department should now examine whether the leaner Army command structure should set the pattern for harmonisation.

4. **There remains a sizeable 20% to 38% gap between the numbers of helicopters needed and those available.** The Department currently has two different methodologies for measuring this gap and it should establish which of its two current methodologies is the more appropriate.

5. **Helicopters and aircrew may not be ready in time through over-reliance on Urgent Operational Requirements to cover equipment shortages.** The Department expects that Urgent Operational Requirements will continue to be needed on future operations. It should put in place plans to mitigate the risk that capability gaps will not be filled in an effective or timely manner.

6. **The Department has bought eight Chinook Mk 3 helicopters which have not entered service and which it cannot use.** The acquisition of the Chinook Mk3 is one of the worst examples of equipment procurement that the Committee has seen. Only 45 of 100 'essential elements' set out in the Department's requirement were actually specified in the contract. Not enough work was done early on to translate the key requirements of the user into a specification that the contractor had to deliver.

7. **In order to prevent a recurrence of this flawed procurement, the Department should examine all such projects on a case by case basis to ensure that Smart Acquisition principles are implemented consistently and with rigour.** One way of doing this would be to introduce a process of peer review which would assess whether Smart Acquisition principles had been properly applied.

8. **The Department was unable to say who was responsible for the flawed procurement of the Chinook Mk3.** No one seems accountable when things go wrong. It is time the Department implemented our previous suggestion that all

aspects of a project should be accounted for by a single individual who would have the role of Single Responsible Owner.[2]

9. **The Department should determine whether there is any beneficial use that can be made of the Chinook Mk3.** It has written down the value of the Chinooks in the accounts to the value they would have if broken up for spares, while suggesting that other nations, including our Allies, would judge the Chinook Mk3 to be fit for purpose and safe to fly. The Department's current review of how it applies safety procedures to equipment should provide an opportunity to resolve the issue. **At the end of the day we are left with a quarter of a billion pounds of taxpayers' money spent on helicopters that simply cannot fly and that is of deep concern to the Committee.**

2 43rd Report from the Committee of Public Accounts, *Ministry of Defence: Major Projects Report 2003* (HC 383, Session 2003–04)

1 Increased harmonisation between the Services

1. Since its inception in October 1999, the Joint Helicopter Command has taken steps to harmonise operating and engineering standards across the Services in accordance with one of the objectives set for it in the Strategic Defence Review. This development has tackled the inefficiencies that were apparent when the three Services independently deployed helicopters on operations. The Department had estimated that, in Bosnia in 1996, for example, it had deployed some 40% too many helicopters, leading to some duplication of capabilities, particularly combat service support.[3]

2. Battlefield helicopters continue to play a key role in the United Kingdom's military operations. They have been deployed on many operations, notably Sierra Leone, Afghanistan, and Iraq. During the warfighting phase of Operation TELIC, 77 battlefield helicopters were deployed on what was the Joint Helicopter Command's largest operation to date.[4]

3. There remained a number of unresolved issues following the formation of the Joint Helicopter Command, including that of rank structures. In response to a recommendation made by the Committee in its Report on the Apache Attack Helicopter,[5] the Department had reviewed whether the Army's practice of using non-commissioned pilots to fly its helicopters should be adopted by the other Services across the rest of the battlefield helicopter fleet. The study found that the use of helicopters differed in each of the three Services and had led to policies that reflected both the specialist demands of the helicopter forces and the wider command and leadership requirements of the parent Service. Royal Navy helicopters were an integral part of the Navy's operational capability and, given the small number of officer pilots, it would be disruptive to introduce an additional cadre of non-commissioned officers. The Army's helicopters constituted a combat arm and operated under the specific command of the brigade to which they were assigned and required less independent activity at a distance from the home base. Non-commissioned officer pilots were almost exclusively employed in flying duties. The Royal Air Force's helicopters were normally assigned at a higher, "strategic", command level. Its officer pilots were therefore required to have a thorough understanding of higher command intent. The Royal Air Force also depended on its aircrew to act as a pool for the provision of its senior commanders and warfighters, including fast jet pilots.[6]

4. While there would be scope for non-commissioned pilots to operate in a small number of Royal Navy and Royal Air Force helicopter roles, the study had concluded that the requirement for each of these Services to maintain a minimum number of officers for the purposes of command and control would limit the number of non-commissioned officer

3 C&AG's Report, paras 2.6, 2.10. Combat service support consists mainly of administration and logistics, which is provided to combat forces.

4 *ibid*, paras 1.6, 1.9

5 46th Report from the Committee of Public Accounts, *Ministry of Defence — Building an Air Manoeuvre Capability — The introduction of the Apache Helicopter* (HC 533, Session 2002–03).

6 Qq 68, 186–187; Ev 7, 17

pilots that they could support to a combined total of 156. While this would yield potential annual savings of around £1.25 million, the study found that one additional pilot each year would need to be trained to maintain manning levels. This requirement would effectively negate any savings made. The flexibility of the forces involved would also be reduced and there would be a negative impact on the overall rank structure and development of commissioned warfighters in the individual Service. These factors, together, persuaded the Department not to change its policy at this time.[7]

5. The Department considered that the Royal Navy and the Royal Air Force required different qualities in their pilots to the Army but accepted that the differences in the capabilities of one type of pilot and the other were subtle. Army non-commissioned officer pilots flew the highly complex Apache aircraft, for example. Were the Services starting again, the position may well have been different. The Department said that, for reasons of equality of opportunity and best practice, there was a case for keeping the position under review. It would take the opportunity to do so when considering the planned introduction of the Future Rotorcraft Capability programme.[8]

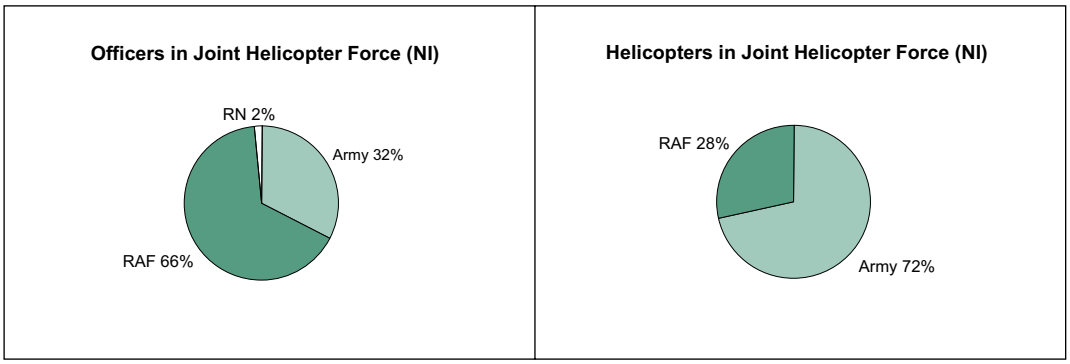
6. There was still an unresolved discrepancy between the levels of command and the numbers of people and equipment deployed within Army helicopter squadrons compared to those within Royal Air Force squadrons. For example, in the Royal Air Force, squadrons were commanded by Wing Commanders, whereas in the Army squadrons were commanded by officers one rank lower, at Major. Whereas 38 Army officers operated 43 helicopters at RAF Aldergrove, 77 officers from the Royal Air Force were responsible for only 17 helicopters **(Figure 1)**.[9]

7 Q 156; Ev 14

8 Qq 68, 155–156, 186–190

9 C&AG's Report, para 3.33, Figure 4 and Annex C

Figure 1: The establishment of the Joint Helicopter Force (Northern Ireland)



Source: Ministry of Defence

7. In examining whether cost savings could be made by using non-commissioned officer pilots across the three Services the Department had not examined the impact of using non-commissioned officer pilots on the Services' rank structures. Clearly, there would be scope for potential savings if the number of officers could be reduced. These benefits needed to be weighed against the disadvantages arising if a reduction in the officer pool had a detrimental effect on the ability of the Services to provide sufficient senior commanders.

8. In 1997, the Defence Helicopter Flying School was formed to provide a tri-Service focus for helicopter flying training. Variations in the way training was conducted across the three Services nevertheless remained, including the time taken for pilots from each Service to complete their initial training. The Royal Air Force initially trained its pilots on two different non-operational platforms, but the Royal Navy and the Army used only one before proceeding to operational helicopters.[10] The Department had sought to achieve further efficiencies from the Defence Helicopter Flying School by adjusting course syllabi and adjusting elementary flying training. A planned trial of the Army Flying Training Study in 2005 could lead to an 11 week reduction in the amount of initial training time required. In the longer term, the United Kingdom Military Flying Training System would examine the possibility of doing more flying training on relatively cheap, non-operational helicopters.[11]

9. While it took 110 weeks and 94 weeks, respectively, to train Chinook and Apache pilots in the United Kingdom, the United States Army was examining the feasibility of training its pilots on similar platforms in 44 weeks and 53 weeks, respectively.[12] The Department was cautious about adopting this approach in the United Kingdom. It pointed out that, even for the United States, this remained an unfunded aspiration. The differences between the timescales involved might revolve around time, cost and quality issues as well as whether some training was provided before or after pilots had been posted to their operational squadrons.[13]

10 C&AG's Report, para 3.7

11 Ev 23

12 C&AG's Report, para 3.8

13 Q 148

10. The Department's training arrangements for the Apache Attack Helicopter and the Defence Helicopter Flying School were both contracted out under the Private Finance Initiative. It was originally anticipated that these contracts would yield savings of £23 million and £80 million respectively.[14] The anticipated savings from the Defence Helicopter Flying School had fallen to £10 million, however, because of a number of contract amendments, which partly reflected the increased throughput from the School of almost 40%.[15] The Department agreed that the original contract, signed in 1996, was not as taut as it should have been but said that it had recently agreed to share gains with the contractor from any third party usage.[16] In the case of the Apache, the Department accepted that, initially, there had been problems with the provision of training, although arrangements were now working well.[17]

11. Although there were joint regulations in place for ensuring that helicopters were airworthy, responsibility for applying these regulations was currently delegated by the Secretary of State to each of the Services. Each Service acted as a Release to Service Authority for its helicopters, which involved the provision of a clear statement that the aircraft was airworthy and fit for purpose.[18] While differing roles and operating requirements might continue to dictate the need for more than one Release to Service Authority for the same mark of helicopter, the Department would examine whether a joint Release to Service Authority was feasible.[19]

14 Qq 69, 159–160

15 Qq 145, 164

16 Qq 146–147

17 Q 84

18 C&AG's Report, para 3.18

19 Q 180; Ev 17

2 Helicopter and equipment shortages

12. The Department acknowledged that there was a current and projected shortfall in battlefield support helicopter lift capability at its disposal. It used two different methodologies to assess the size of the shortfall and to inform its decision making. Both methodologies assumed that the Department should be able to undertake concurrently one small and two medium-scale operations. The Department used Operational Analysis to inform equipment procurement decisions and future capability planning. This methodology assumed no risk, in the sense that all the helicopters required for every conceivable mission, including discretionary tasks, and covering for all environmental conditions would be in place. The capability shortfall calculated against this criterion was 38%. The Department's alternative methodology took account of both historical evidence and policy judgements about future operations and generally assumed that desired strategic effects could be achieved with smaller force structures over the duration of an operation. Using this methodology, the Department estimated the capability shortfall to be around 20%.[20]

13. Within the overall deficit calculated using its Operational Analysis methodology, the Department had estimated that it had a 17% shortfall in helicopter lift needed for land operations and an 87% shortfall in ship-optimised helicopter lift. This latter capability was provided by the Sea King Mk4. The Department was partially addressing this shortfall by deploying land-optimised helicopters, such as the Chinook, from ships and by upgrading the Sea King Mk 4's engine in a £1 million measure that would take effect from April 2006.[21]

14. The gap in battlefield support helicopter lift, regardless of how it was measured, had not yet impacted upon the successful conduct of operations, as the Department had been able to provide all the military helicopter assets needed. The shortfall had, however, adversely impacted on training in the United Kingdom, particularly in providing support for ground training operations.[22]

15. In preparing the recent Defence White Paper, the Department had put in place a Future Rotorcraft Capability programme **(Figure 2)**. Officials had endorsed the first phase of this programme, the project definition stage, in September 2004. No decisions had yet been taken about the shape of the future programme or the individual components within it. Ministers were expected to decide on a way forward by Spring 2005. The Department intended to spend £3 billion during the next ten years to enhance and replace the capability provided by the helicopter fleet. The Department did not, however, expect to eliminate the shortfall in battlefield support helicopter lift in its entirety.[23]

20 Q 192; Ev 18

21 C&AG's Report, para 4.3; Q 89; Ev 9

22 Q 6

23 Qq 7, 123, 225; Ev 2, 11, 22

Figure 2: The Future Rotorcraft Capability programme

Project	Description
Support, Amphibious and Battlefield Rotorcraft (SABR)	Will replace Puma and Sea King helicopters providing lift support for land and amphibious forces
Battlefield Light Utility Helicopter (BLUH)	Will replace Gazelle and Lynx helicopters supporting land, amphibious, and Special Forces
Chinook Mk3 resolution	Rectify the shortcomings, sale or use for spares option for Chinook Mk3
Health and Usage Monitoring System (HUMS) for Lynx and Chinook	Insertion of system to sustain Lynx and Chinook helicopters

Source: Ministry of Defence

16. To be fully combat effective, the battlefield helicopter fleet should be equipped for operations across the spectrum of conflict and for various environmental conditions.[24] The Department was, however, unable to meet this aspiration. The Department's requirement was now for a more agile force deployable in a range of environments around the world, but much of the current battlefield helicopter fleet was originally designed specifically for operations in North West Europe during the Cold War and required modification. The Department considered fleet-wide modification of legacy platforms to be both unnecessary and prohibitively expensive and used the process of Urgent Operational Requirements as one way to alleviate shortfalls in capability in specific environments. Consequently, much of the equipment acquired through Urgent Operational Requirements was theatre-specific, off-the-shelf, and designed for immediate and short-term usage.[25]

17. Shortfalls included helicopter protection, nuclear, biological and chemical protection for helicopter aircrew, and communications. On Operation TELIC, which arose at short notice, an inability to build up a sufficient stock of sand filters for Lynx helicopters meant that the Department was unable to deploy the whole of its Lead Aviation Task Force on that particular operation. The result was that the force package deployed was dictated by the number of platforms available rather than the needs of the mission.[26] The Department said that all new helicopters procured under the Future Rotorcraft Capability programme would be fitted with full communications systems, compatible with the Bowman system used by land forces, sand filters and defensive aid suites. While it was inherently difficult to guarantee total nuclear, biological and chemical protection, the Department considered the protection available to its helicopter force to be as good as any in the world.[27]

18. While Urgent Operational Requirements had some advantages in terms of allowing for timely upgrades of equipment prior to operations, there were also disadvantages in using this process. Because of the constraints imposed by tight timescales, training, availability, and supportability could all be adversely affected. Prior to Operation TELIC, the Army Air

24 C&AG's Report, para 4.6

25 Qq 9, 141; Ev 3, 13

26 C&AG's Report, para 4.9; Q 37

27 Qq 9, 29, 38

Corps was unable to familiarise itself with a new defensive aids suite as it arrived too late to be fitted on the helicopters used for training in the United Kingdom.[28] The Department recognised that it did not provide everyone deployed to the Gulf with all the training required. In managing this risk, the Department relied on the ability of generic training to inculcate an ability to adapt quickly to new equipment, new techniques, and new environments once they were in theatre.[29]

19. The emphasis in British defence policy on expeditionary operations meant that the Department would continue to rely heavily on Urgent Operational Requirements for as long as its legacy fleets remained in service. Even if it met its aspiration of acquiring a future helicopter fleet capable of operating in all environments, the Department expected that it would always have to upgrade equipment to take advantage of the latest technology.[30]

28 C&AG's Report, para 4.10

29 Qq 220–221

30 Ev 27

3 The procurement of the Chinook Mk3

20. In July 1995, the Department decided to upgrade eight of the 14 Chinook Mk2 helicopters it was procuring as part of its requirement for a Medium Support Helicopter. The upgrade to an enhanced Mk3 standard would include improvements in range, night vision, and navigation capabilities. The project was scheduled to cost more than £250 million and the forecast in-service date was November 1998. A subsequent change to the requirement led to an avionics upgrade programme being put to contract in 1997, which entailed a hybrid solution, incorporating elements of the existing analogue cockpit and new digital systems and displays. The need to test the airworthiness of the aircraft together with some programme slippage led to the setting of a new In-Service Date of January 2002. When the aircraft were accepted from the contractor in December 2001, the Department found that it was unable to demonstrate that the flight instruments met United Kingdom Defence Standards, as this requirement had not been specified in the contract. Consequently, the aircraft could not be used other than for limited flight trials.[31]

21. The Department said that there were three main reasons why the helicopters remained grounded and were unfit for their operational task. First, without access to the source software codes held by the United States, the safety parameters of the aircraft could not be tested in its current configuration. One of the main contractors has now indicated that it would allow access to some software data. The process of analysis is, however, time consuming and expensive and there is no guarantee of success because the legacy software is not amenable to the techniques required to confirm the robustness of the software design. Secondly, the specialist role envisaged for the aircraft had changed since they were acquired. Finally, the aircraft needed to be fitted with Health and Usage Monitoring Systems, a range of systems that seek to monitor the progressive wear of engines, and better Defensive Aids Suites.[32]

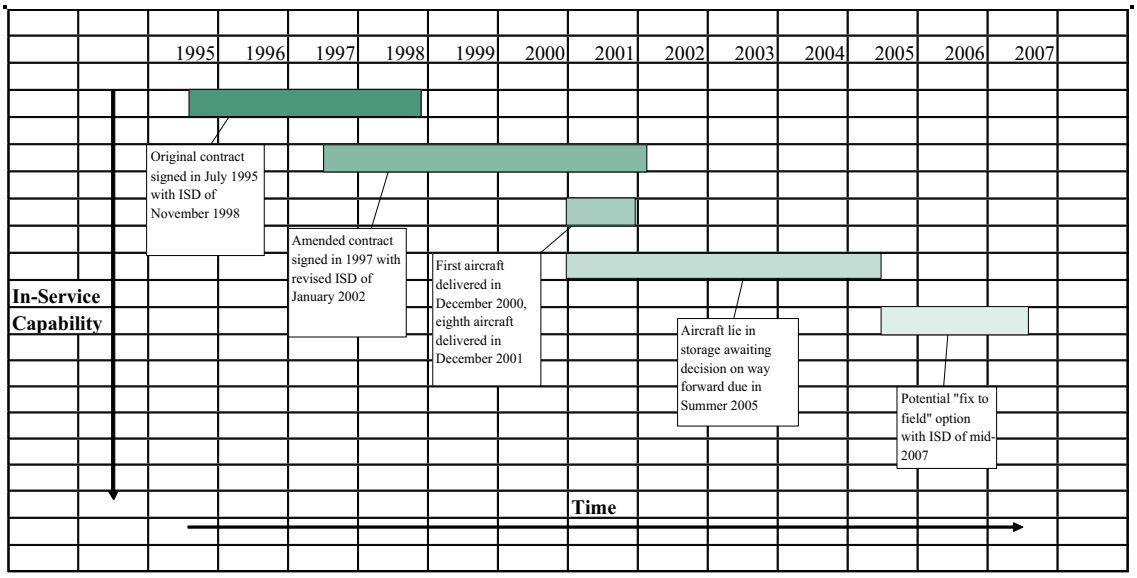
22. Despite the fact that all the aircraft accepted from the contractor met, and in some cases exceeded, the contract, the Department accepted that the taxpayer had not been well served by the procurement of the Chinook Mk3. The contract did not specify fully all of the Department's requirements (paragraph 23). The Department acknowledged that the whole project was flawed from the outset in 1995 and got worse after 1997. **Figure 3** illustrates the timescales involved in the project.[33]

31 C&AG's Report, paras 3.40–3.41

32 Q 2

33 C&AG's Report, para 3.41; Qq 1, 84

Figure 3: Timescales on the Chinook Mk3 procurement



23. A key factor in the delay in bringing the Chinook Mk3 into service was the Department's failure to specify in the contract what its requirements were for independently validating the United States manufacturers' safety critical software codes for the avionics systems. The Department had incorrectly assumed that it could rely on a safety case based on the systems' similarity with the avionics systems used in the Royal Netherlands Air Force's Chinooks. The Department acknowledged, however, that, as with the Apache Attack Helicopter, it was not always necessary to have access to source codes to achieve adequate safety assurances. The Department currently operates the C17 aircraft within United States' safety parameters without having independently validated the avionics software codes.[34]

24. In addition, the contract specified delivery of only 45 of 100 "essential elements" outlined in the requirement for the helicopter. In practice the helicopter design met 55 of these requirements. Of the remaining 45 elements not delivered, a number of capabilities could not have been included owing to immature technology, some of which were planned to be fitted later. But, in the majority of cases, the Department had been unable to identify a clear audit trail to explain why the remaining elements of the requirement were not embodied in the contract.[35]

25. The Department had instigated a full review of the procurement, which preceded the introduction of Smart Acquisition, to ensure that mistakes were not repeated. The Department needed to heed three lessons: there should be better risk reduction and more understanding of what was being undertaken before signing a contract; there should be more rigorous project review throughout the period of the procurement; and there needed to be a better understanding of the underlying safety issues, particularly where there was a unique British requirement for the independent validation of source software codes. The need to validate independently the software codes for the Chinook Mk3 had been a British

34 C&AG's Report, para 3.41; Qq 1, 223

35 C&AG's Report, para 3.42; Qq 20–21

requirement. Other countries, including the United States, were happy to fly the aircraft. The Department was reviewing its management of safety cases to ensure that its procedures were appropriate.[36]

26. The Department accepted that the procurement principles drawn out by the review of the Chinook procurement were not new. For example, during the procurement of the Sea Wolf missile between 1987 and 1990 project management techniques, including regular review meetings, assessments of risk, and measuring safety parameters of the equipment, had all been used.[37]

27. Despite the acknowledgement that the procurement of the Chinook Mk3 had been poor, no one in the Department with responsibility for the project had been disciplined. Decisions had been made collectively rather than any individual being responsible. Faults lay with a range of people including the project team, operational requirements staff and the safety authority. There were also weaknesses in senior staff oversight. The Department's review had suggested that people had acted with the best intentions but had got things wrong.[38]

28. The Department had completed a Combined Operational Effectiveness and Investment Appraisal and identified that to rectify the aircraft's shortcomings was probably the best value for money solution to the Chinook Mk3 problem. The Department were to undertake a £13 million preparation phase to determine the validity of this solution and expected to decide the way forward in Summer 2005. Other options that were open to the Department were to sell the aircraft to a nation that regarded them as acceptable or to use the aircraft as a source of spares for the rest of the Chinook fleet, which was undesirable.[39]

29. The Department had originally estimated that to provide the capability required by mid-2007 would cost around £127 million.[40] It was now, however, unsure of the final cost and the preparation phase for the option to rectify the aircraft's shortcomings would establish a more accurate forecast. This option would comprise three elements: the replacement of the Chinook Mk3's avionics to meet the requirements of the Department's airworthiness standards; the provision of a Health and Usage Monitoring System and a Defensive Aids Suite; and the provision of revised Special Forces' operational requirements. The last two elements would have been additional projects even had the original procurement been successful.[41]

30. Until a final decision on the way forward was made, the Department had taken a prudent accounting measure in writing down the value of the Chinook Mk3s by £205 million in the Departmental Accounts. The value had been written down to reflect that of usable spares only.[42]

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36 Q 1

37 Qq 103–109

38 Qq 42–44, 116–119

39 Qq 149–150; Ev 14

40 C&AG's Report, para 3.43

41 Qq 5, 206

42 Q15; Ev 3

31. The Department had considerable experience of identifying lessons from procuring equipment but failed to learn from this experience when acquiring the Chinook Mk3. The Department said that it had now implemented the lessons from this particular procurement project.[43] These included the clear points of failure in the project such as deviations from standard procures, identifying how Smart Acquisition processes could have made a difference and the way in which the need for Military Aircraft Release acted as a constraint. The Department had formulated an action plan based on these lessons and would review progress in mid-2005.[44]

43 Qq 91–92

44 Ev 26

Formal minutes

Wednesday 23 February 2005

Members present:

Mr Edward Leigh, in the Chair

Mrs Angela Browning	Mr Brian Jenkins
Mr David Curry	Mr Gerry Steinberg
Mr Ian Davidson	Mr Alan Williams

The Committee deliberated.

Draft Report (Ministry of Defence: Battlefield Helicopters), proposed by the Chairman, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 31 read and agreed to.

Conclusions and recommendations read and agreed to.

Summary read and agreed to.

Resolved, That the Report be the Eighth Report of the Committee to the House.

Ordered, That the Chairman do make the Report to the House.

Ordered, That the provisions of Standing Order No. 134 (Select Committees (Reports)) be applied to the Report.

[Adjourned until Monday 28 February at 4.30pm

Witnesses

Monday 25 October 2004

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Oral evidence

Taken before the Committee of Public Accounts

on Monday 25 October 2004

Members present:

Mr Edward Leigh, in the Chair

Mr Richard Allan	Mr Brian Jenkins
Mr Richard Bacon	Mr Gerry Steinberg
Mrs Angela Browning	Mr Alan Williams

Sir John Bourn KCB, Comptroller and Auditor General, National Audit Office, further examined.
Mr Brian Glicksman, Treasury Officer of Accounts, HM Treasury, further examined.

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL:

Ministry of Defence: Battlefield Helicopters (HC 486)

Witnesses: **Sir Kevin Tebbit KCB CMG,** Permanent Under Secretary of State, **Sir Peter Spencer KCB,** Chief of Defence Procurement and **Air Vice-Marshal Paul Luker OBE,** Commander, Joint Helicopter Command, Ministry of Defence, examined.

Q1 Chairman: Good afternoon. Welcome to the Committee of Public Accounts where today we are looking at Ministry of Defence battlefield helicopters. We are joined, once again, by Sir Kevin Tebbit, who is the Permanent Under Secretary at the Ministry of Defence, by Sir Peter Spencer, who is Chief of Defence Procurement, and by Air Vice-Marshall Paul Luker, who is Commander, Joint Helicopter Command. You are all very welcome on what is obviously an important subject. Maybe, Sir Kevin, if you do not mind, I could start by asking you a few questions. Sir Kevin, why did your department spend a quarter of a billion pounds on eight Chinook helicopters that cannot fly if it is cloudy?

Sir Kevin Tebbit: Thank you for starting with the bad point. I had hoped you would talk about the positive point, Chairman, of the helicopter force, but on that I agree with you, the taxpayer has not been well served there. We have spent £252 million and we have not got the capability we need, and therefore this is an unsatisfactory situation. As I hope you know, there was a post project evaluation, but I commissioned a full study myself, when this was drawn to my attention, to ensure that these mistakes are not repeated. I think the reason, as a result of that detailed evaluation, is no one reason, there are four main reasons, and I am not sort of taking refuge simply in saying with smart acquisition it will all be fine, even though this was a flawed procurement from 1995, nine years ago. It will not all be fine simply by quoting a mantra of smart acquisition, we need to heed, and I think we are heeding, four key lessons. The first is we must have much better risk reduction and understanding of what it is we are going into before we sign contracts. Perhaps in 1995 this could be excused because people at that stage thought they were basically buying an off-the-shelf aircraft, the Chinook Mk3 was not going to be very different from the Chinook Mk2 and 2A, so it was a sort of direct acquisition from the United States; but when in 1997 we decided that we needed to upgrade the avionics and turn it from what it had been into something very different, then much more questioning should have taken place and it did not, and that is a lesson that we have had to learn and have learned. It is part of smart acquisition, but it is a very specific case and illustration. Secondly, we must have a much more rigorous project review. We did not have enough project review continuously during this procurement. There was not enough oversight, not enough supervision by the Procurement Executive what is now the Defence Procurement Agency, and that should have occurred. Had there been, as now, monthly reviews of progress on projects, this would never have happened, because people would have seen the problems emerging much earlier and would have had much longer time to take mitigating measures. Thirdly, we do need a better understanding of underlying safety issues. Why this has gone wrong, in a nutshell, is because we failed to specify what the UK requirements would be for independent validation of the software used in this and the source codes that would be needed to validate that software. That is a British requirement; it is not an American requirement. The Americans tell us it is fine, but our own standards require this and we failed to specify it. So we are, firstly, reviewing our processes for safety cases; we are looking at whether we have got it right in the way we do things or not. Other countries would be happy to fly this aeroplane today. The United States tell us it is fit to fly. Our own rules make it impossible for us to do so in the role envisaged. We need to understand why that is. Are we being too strict? In my view probably not, but we do need to look at how we manage safety cases. Secondly, we need to ensure

that our project teams keep in touch with those responsible for safety clearances as the project proceeds, rather than wait until a very late stage before engaging.

Q2 Chairman: Thank you for dealing with the question I wanted to ask you next, which I think you have dealt with most comprehensively, which is the answer to what lessons have been learned. Air Vice-Marshal, just tell us succinctly and briefly and in layman's terms the three main reasons why this helicopter does not work and why your pilots have to look out of the window so see how high up they are?
Air Vice-Marshal Paul Luker: The first reason, I think, Sir Kevin has already touched on, and that is the fact that the safety parameters that we need to operate the aircraft against cannot be proven on the aircraft in its current configuration. The second reason why it is not able to fulfil the function is that since the period it was acquired the requirement of the aircraft has increased—it is used in a specialist role, which I am sure you will understand I cannot go into in too much detail, but it does not meet that requirement—and, in any case, we have made conscious decisions to procure aircraft now that meet better safety standards anyway in terms of health and usage monitoring and also in terms of the self-defence aids we fit to the aircraft. So, for those three reasons, it is not fit for its operational task.

Q3 Chairman: Sir Kevin alluded to the fact, I think he may have said, that in America perhaps the pilots would have been prepared to fly it, but your pilots are not prepared to take the risk. Is that right?
Air Vice-Marshal Paul Luker: It is not that our pilots are not prepared to take the risk; it is that the aircraft does not meet the safety parameters that we lay down for it.

Q4 Chairman: Sir Kevin, as you know, we had a very interesting visit last year to look at the Apaches and we saw a lot of helicopters lying around in hangers, and we see the same thing here. Is there something fundamentally wrong with your procurement of helicopters?
Sir Kevin Tebbit: I think these are two completely different cases. I am very pleased to say that the Apaches are now flying. As of 28 September there is an initial operating capability for Apaches, so it is now available for military use and is, as it were, under the suite of options the permanent joint headquarters has. So when we said we expected that to occur, it has.

Q5 Chairman: So no connection, but the same result. Excuse different, effect the same?
Sir Kevin Tebbit: It is not the same result. There is no connection because one was about the training provision. This is about the problem of proving the aircraft to our safety standards. The Air-Marshal referred to two other elements, which are relevant. The cost—you talked about the cost of this. The cost to put this right would be three elements, one would be to sort out the air-worthiness issue that we talked about; the other two elements would be to meet the current Defensive Aids and health and usage monitoring standards and the current requirements for special forces operations, both of which would have been additional projects even if this particular project had been successful. So it is possible to exaggerate the extent to which this has been totally flawed, but there is no distinction, no similarity, sorry, between the two things, except, as I say, Apache is now up and flying operationally.

Q6 Chairman: Can you, please, look, Sir Kevin, at figure 13, which you can find on page 32, and there is also a reference to this point in paragraph 4.3, which you can find on page 31. What this shows us is that you have less than two-thirds of the helicopter lift that you want. I know, Sir Kevin, that you have issued a supplementary memorandum[1] and I know that there is an argument whether the shortfall is 20% or 40%, but I do not want to get into an argument about that, the fact is that you still have much less helicopter lift than you want. What impact has this had on operations in Iraq or elsewhere?
Sir Kevin Tebbit: Chairman, it has had no impact on our operations in Iraq or elsewhere. In the operational context we have provided and, in my judgment—the military judgment can follow—all of the military operational helicopter assets needed for success. Where it has had an impact has been on training in the UK, particularly support for ground forces operations. That is really why there are two different figures. The 38% here is the aspiration of the equipment community to meet the full ideal requirement; the 20% is what in practice is the level we are working to. We are short of that, but the shortage comes through in terms of operational training in the UK, not in terms of actual operations. They are our first priority and we meet those with the assets concerned. Remember, we took 77 helicopters to Iraq. It was not a medium scale operation; it was a large scale operation. Something we would expect to have six months to prepare for we did in much less time than that, and British helicopters performed brilliantly; indeed on the critical assault on the Al Faw Peninsula at the beginning of the operation, very heavily covered as well in the media, it was British aircraft that replaced American aircraft, who decided, for various reasons, that they did not wish to take the task. We took it and succeeded. So I do not think there is any doubt about the operational capability; it is more about the training areas where we find ourselves short.

Q7 Chairman: You promised us, I think, in the NAO Report . . . The NAO Report says that you intended to eliminate this deficit by 2018. Reading your supplementary memorandum,[2] it seems that you are no longer planning to eliminate this deficit by 2018. Is that right?
Sir Kevin Tebbit: I have to say, I think that is what you see from the graph. That is not the way the real world planning takes place. I do not know what the situation is going to be like in 2018. What I can say

[1] Ev 22-27
[2] Ev 22-27

is that we have ear-marked for the future Rotorcraft capability—helicopters that we are procuring next—proposals that have already started and will be completed next spring—£3 billion over the next 10 years to equip the next generation of helicopters. I am satisfied that—

Q8 Chairman: Is that less money than you had intended before? Are we talking about the same amount of money to eliminate this deficit or not?
Sir Kevin Tebbit: Plans change according to each two-yearly cycle. It depends who you are asking. As I say, there is an equipment customer community which has high aspirations. That has to be balanced across the totality of Defence equipment programmes—we do not just buy helicopters, there is a lot else going on—but £3 billion is £6 billion over twenty years, that is the highest figure that I think we have ever come up with and I am quite confident that with that we will have a much more powerful helicopter force than we have at present and will continue to have, as the Report says, probably the most effective in Europe.

Q9 Chairman: Can you now, please, look at paragraphs 4.7 and 4.8 on your final page 33. You will see in those paragraphs, Sir Kevin, that "The helicopter force has a number of critical capability shortfalls in its communications and defensive aid equipment". What are you going to do about this?
Sir Kevin Tebbit: This mainly refers to the helicopters which are sort of about to go out of service and for whom, therefore, it was not sensible to have a permanent expensive fix, I mean, Lynx and Puma. All of the new helicopters that we are procuring today and will be procuring under the future Rotorcraft programme have full communications fit and will also be compatible with the Bowman system for the land forces; so they will have inter-operability there. As I say, the successors will have this enhanced communication. We had to put these sorts of fits inadequately really into legacy platforms; so that will be corrected.
Chairman: I have got other questions, but I had better give colleagues a chance to ask questions. The first colleague is Mr Alan Williams.

Q10 Mr Williams: Sir Kevin, we joined this Committee in 1990 and I thought by now I had seen every variation on the fiasco it was possible to see, and then this Report landed on my desk. I would like to ask you some straightforward questions, not opinions, not value judgments. Will you just confirm various facts, and I want to concentrate on the Chinook and I want to concentrate on the Lynx? The fact is that the Department has now, after six months of this Report being published, written off £205 million of public money, has it not?
Sir Kevin Tebbit: That is a precautionary figure.

Q11 Mr Williams: Do you mean it could be more?
Sir Kevin Tebbit: No, it cannot be more. That is the most it could ever be.

Q12 Mr Williams: Okay; that is fine, but £205 million is what you have written off?
Sir Kevin Tebbit: We have not yet written it off. We felt that that was the accurate statement for the Accounts as of today.

Q13 Mr Williams: You say that the fleet that you have, limited as it is, is really only usable for spares. That seems to be in your supplementary memorandum.[3] Is that not so?
Sir Kevin Tebbit: That value reflects the spares value of the fleet.

Q14 Mr Williams: So we have got the most sophisticated aircraft which is very useful as long as we can sell the parts to Halfords or to someone! It is an aircraft that has never flown in anger or never in action in any way at all, is it not?
Sir Kevin Tebbit: But it could do.

Q15 Mr Williams: It could do! It would seem that there is certain disagreement, and at the moment I am inclined to think you would not write-off £205 million as a "could do"?
Sir Kevin Tebbit: No, I am sorry, you are wrong. This is prudence by the Department.

Q16 Mr Williams: It says that in order to get it up to any sort of standard, which would only be the standard then of the aircraft it is replacing, the HC2, would cost another £127 million. So that is in the Report and you have signed up to it. Is it not also a fact that the decision to buy this was made, as you have said, in 1999 with it being in service by 1998?
Sir Kevin Tebbit: I am sorry, 1995.

Q17 Mr Williams: I am sorry; I am misreading my own writing. It was decided to buy in 1995 to be in service by 1998. In your most optimistic assessment in the original report you felt that by 2007, in fact, nine years later, it would still only be capable of being brought up to the capability of the Chinook HC2. That is stated in the report?
Sir Kevin Tebbit: Which itself, of course, has had capability upgrades over the last few years for the defensive aids, health and usage monitoring system, and special forces use.

Q18 Mr Williams: So we might be a lot better off buying some more HC2s at a much less price and doing the upgrades?
Sir Kevin Tebbit: No, I am explaining like to like. The point I am making is that over nine years the needs of the battlefield have changed and we have had to upgrade helicopters as we have gone along.

Q19 Mr Williams: So you did not really need it in the first place because you have been able to bring the existing Chinook up to standard; so you did not need to spend the £205 million by the look of it. Is it not also a fact—I said I do not want opinions—

[3] Ev 22-27

Sir Kevin Tebbit: No, but I am grateful for yours.

Q20 Mr Williams: I do not want opinions; I want facts. It says in paragraph 3.42 that although 100 essential elements were identified at the time the contract was about to be placed, up to 45 of them were not covered in the actual contract that was placed. That, again, is factually correct, is it not? Otherwise you would not have signed the contract—Paragraph 3.42?
Sir Kevin Tebbit: That is correct, yes.

Q21 Mr Williams: —for the 45 elements. It also goes on to say, "The Department has been unable to discover an audit trail to explain why no action has been taken to contract for the remaining elements." Is that correct?
Sir Kevin Tebbit: That is correct.

Q22 Mr Williams: So we are agreed on that. That sounds pretty comprehensive to me, particularly in terms of what the RAF have said and what the Chairman has said about the way in which it can be operated. Let us then switch to the Lynx. Here we should be dealing with something much more straightforward. It is a relatively unsophisticated aircraft compared with the new Chinook. If we go to paragraph 4.7, is it not a fact that in 1991 operation GRANBY recognised shortfalls in the capability or protection provided for by helicopters? That is stated there, is it not, in 1991?
Sir Kevin Tebbit: Correct.

Q23 Mr Williams: Is it not a fact that these included communications? Yes or no? It says it there.
Sir Kevin Tebbit: Yes, I agree.

Q24 Mr Williams: I cannot hear if you are not answering. I do not want you to be in disagreement on anything?
Sir Kevin Tebbit: No, but I am not here simply to repeat things.

Q25 Mr Williams: Helicopter protection?
Sir Kevin Tebbit: Yes.

Q26 Mr Williams: And crew protection from chemical, biological and nuclear warfare tanks. That was in 1991. So why had nothing been done about it, or little been done about it, by the time we went into Iraq?
Sir Kevin Tebbit: It is not the case that nothing has been done about it. A considerable amount was done about it. We have had to meet urgent operational requirements, I agree, and we have had to put extra work into it. Our people were not at risk through—

Q27 Mr Williams: I do not want to go off—
Sir Kevin Tebbit: You are asking me but you are not allowing me to answer, Mr Williams.

Q28 Mr Williams: I am trying to speak to the facts?
Sir Kevin Tebbit: So am I, but there are facts and there are opinions, and you are putting the facts in an opinionated way.

Q29 Mr Williams: And you have put a supplementary report in and you have had every opportunity to put any other opinions in that you want. I just want to clarify the points in this report before I come to the actual point of my question. Is it not a fact, as declared in this, that because of these short-comings and because, in addition to all of these very important short-comings, you were actually short of sand filters, that you were only able to field 24 of your fleet of Lynx helicopters?
Sir Kevin Tebbit: The Assistant Chief of Air Staff has told me that the NBC protection for our helicopter force is as good as any in the world. That is the answer to your NBC question. It is inherently difficult to guarantee total nuclear and biological protection.

Q30 Mr Williams: But, like in the tanks, they are having to have individual protection, which makes it much more difficult in operational terms for a pilot or for a tank commander?
Sir Kevin Tebbit: Increased protection was provided.

Q31 Mr Williams: Is it not a fact that, because of your requirement that these standards should be met, you were only able to supply a fleet of 24 Lynx helicopters, whereas you felt that 33 would have been needed? That is stated in the Report, is it not?
Sir Kevin Tebbit: Yes, we were in the process of upgrading facilities, yes.

Q32 Mr Williams: Sand filters do not take much upgrading, do they? Let us face it, like body-armour, it is not the most difficult piece of equipment to get, but a very important piece of equipment that was not used?
Sir Kevin Tebbit: I am not sure if you are an expert, Mr Williams, are you?
Mr Williams: No, I do not suppose you are actually?

Q33 Chairman: I do not think there is any point in trading insults.
Sir Kevin Tebbit: I am not trying to trade insults, I am trying to answer the question.
Chairman: I think you should both calm down.

Q34 Mr Williams: I want factual answers but he wants to go off on one of his jaunts because he knows we have only got 10 or 15 minutes on the service! It says here in paragraph 4.9, and you signed up to it, that "Having given up six sand filters to equip the Commando Helicopter", bla, bla, bla, "sufficient filters remained for 3 Regiment, Army Air Corps to deploy only 12 Lynx aircraft." That is stated there and you signed up to it. "Ordinarily", it goes on to say, "the Department would have wished to deploy its entire Lead Aviation Task Force, including 23 Lynx helicopters." You do not disagree with that?

Sir Kevin Tebbit: This is correct.

Q35 Mr Williams: That is correct. "Therefore, rather than the mission determining the force package, the lack of suitably-equipped aircraft limited one of the principal weapon systems available to the Air Assault Brigade." That is an appalling indictment, is it not?
Sir Kevin Tebbit: I do not think it is, no.

Q36 Mr Williams: You do not?
Sir Kevin Tebbit: No.

Q37 Mr Williams: Not even with aircraft of the proven capability of Lynx?
Sir Kevin Tebbit: We could not predict the precise timing of our next operation or where it would take place. The fitting of sand filters was a programme which was already in place. The operation arose at short notice and in the time available this number was provided. We got 30—

Q38 Mr Williams: It was very naughty of our enemies to create a situation where we had to operate virtually . . . They really should give us a predictable kind of war?
Sir Kevin Tebbit: Military operations are perhaps not quite as predictable as some other activities that are required. We did get sets of sand filters very quickly during the operation, 30 extra were provided, and the future Rotorcraft that we are talking about will have sand filters and Defensive Aids suites as normal.

Q39 Mr Williams: That is very reassuring for the future, and that is good, but it was 1991 when it was first pointed out that these things were needed. The Department has been somewhat dilatory in making sure they were available, has it not?
Sir Kevin Tebbit: I would not accept that either.

Q40 Mr Williams: You do not?
Sir Kevin Tebbit: No.

Q41 Mr Williams: You think that something that was recommended in 1991, that was obvious as a result of an exercise to test the capability of our equipment in 1991, has not been acted on by the time we went into Iraq and you do not think that that shows any sign of dilatoriness on the part of the Department?
Sir Kevin Tebbit: We have to prioritise, and that does not just mean costs, it also means the availability of air-frames in order to have these modifications put in them. After 1991 we did not operate in the desert again; we operated in the Balkans and we operated in Afghanistan, which were different scenarios. Perhaps you can understand why it was not necessary—

Q42 Mr Williams: You sound like British Rail saying it is the wrong kind of snow? The British Army is supposed to be able to operate anywhere it is needed to operate in the world, is it not? Therefore in 13 years not to have taken on board the recommendations that were made in 1991 is more than dilatory; it is down right absolute incompetence. Can I ask the question I want to ask, and you can go round this as much as you like: has anyone been sacked for either of these fiascos?
Sir Kevin Tebbit: No, they have not.

Q43 Mr Williams: Has anyone resigned for either of these fiascos?
Sir Kevin Tebbit: No, they have not.

Q44 Mr Williams: Has anyone taken early retirement for any of these fiascos?
Sir Kevin Tebbit: No, they have not.

Q45 Mr Williams: Do you not think perhaps you should consider your position?
Sir Kevin Tebbit: I do not believe these are fiascos.

Q46 Mr Williams: You do not?
Sir Kevin Tebbit: There is a certain question of funding, Mr Williams. We have to do what we can within our resources and prioritise, and, as I say, the operations from 1991 were not in the desert, they were elsewhere. I do take your point that ideally we should be equipped for all environments—

Q47 Mr Williams: Perhaps if you did not spend £205 million on the Chinooks that cannot fly and had bothered to put a bit of protection into the helicopters that you had that could fly and to protect the pilots you already had, at least the soldiers who went in at the start of the war in Iraq would have had a proper air support?
Sir Kevin Tebbit: I think they did have proper air support and it was a successful operation. There is no suggestion that that military operation was in any way endangered by lack of adequate military equipment. As I have explained, in many areas our forces performed with equipment better than other forces, and very well equipped ones too, with very large budgets indeed.

Q48 Mr Williams: Can I ask you if the helicopter force you now have operating there is adequate both for the southern Iraq operational zone where we are at the moment and the new zone the Black Watch are about to go into? Can we at least have an assurance that it is adequate for both of those battle theatres?
Sir Kevin Tebbit: May I ask the Air-Marshal to give you that answer, because some of the questions you ask me are better answered by the military.

Q49 Mr Williams: I am not demanding you answer. If someone else can give better answers, I am all too happy.
Air Vice-Marshal Paul Luker: The aircraft that we have deployed in Iraq are as well protected as any other aircraft in the field.

Q50 Mr Williams: I am asking whether you have got enough of them now. We have moved beyond that. The question I am asking is: are you sure that those that we do have, adequately protected and so on,

that they are now capable of covering both our existing and our new limited operational zone where our Scots colleagues are deployed?
Air Vice-Marshal Paul Luker: Yes, I am content that they are quite capable.
Mr Williams: You are content that they are. Thank you Chairman?

Q51 Chairman: That was a robust exchange! There is nothing wrong with that, but I am anxious that you should be treated fairly. Is there anything you wish to add that you felt you could not because time was pressing after that exchange?
Sir Kevin Tebbit: I think it would be helpful to move on, Mr Chairman.

Q52 Mrs Browning: I think for the record of the Committee I should declare that within the last month I have been a guest to dinner with the Commander of the Allied Rapid Reaction Corps, who I know in a private capacity, at which I discussed the matter before the Committee with him and other officers. Sir Kevin, I wonder if I could, before I get onto the issue I want to ask you about, refer you to page 21, 3.11, because you responded to the Chairman about there being no impact in Iraq, but if you look at that particular section, there are several matters to do with Iraq, such as the problems of desert flying and the lack of resources for sufficient training, the fact that the Army Air Corps was transported by ship rather than air, losing 21 days of training time, and also the fact that the 3 Regiment Army Air Corps were unable to qualify all of its aircrew for night flying, reducing the operational flexibility. That does not look much to me like nothing wrong with the contribution that they made, because they were clearly hampered by their lack of training?
Sir Kevin Tebbit: I think they were hampered by the short notice that was affecting all the operations in moving into that particular theatre.

Q53 Mrs Browning: Why then would they go by boat instead of plane? Why would that be compounded by the length of time they took to travel there when they could have been using that as training time?
Sir Kevin Tebbit: I do not have an immediate answer for you about that. We have gone through, of course, all of these issues in the hearing on Operation TELIC, and this is not actually a hearing about Operation TELIC, so, I must say, my memory would need refreshing as to why they went by sea rather than by land; but clearly, to get all the forces into that theatre in the time available, can I remind you that we got as much equipment into theatre then as we got in Operation GRANBY in 1991 in half the time; so the idea that we were not quickly getting assets into theatre is not correct, but in terms of how individual units were transported, I cannot comment on that in detail at this stage.

Q54 Mrs Browning: I just asked you about it—I was not going to, but I just asked you about it because of your response to the Chairman. I will move on, if I may, to the area I particularly want to cover. How many Apache helicopters have now been delivered?
Sir Kevin Tebbit: Delivered? We have all of them.

Q55 Mrs Browning: How many of them are in storage?
Sir Kevin Tebbit: I could not give you a precise figure at the moment. What I said was that we now have an initial operating capability of Apaches and, progressively, from now until early 2007, they will be fully fielded.

Q56 Mrs Browning: You will recall that in the Report it was suggested that these helicopters going into storage would need to be used and cannibalised for spares. Is that actually happening?
Sir Kevin Tebbit: That is a rather pejorative use of the phrase. I am not aware of using them for spares.

Q57 Mrs Browning: It is a pretty important question? Was there not a problem—
Sir Kevin Tebbit: The answer is, "No", as far as I am aware.

Q58 Mrs Browning: Was there not a problem with procurement in terms of spares?
Sir Kevin Tebbit: There was a problem of procurement in terms of spares, in the sense that the spares support contract was one which was very expensive when first proposed and we have gone an alternative route, but the use of spares from one aircraft to support another is not necessarily a bad thing. I am not quite sure what the thrust of your question is.

Q59 Mrs Browning: Basically what I am asking is that you have procured these helicopters and, if the ones that have gone into storage are now being used in this way to provide spares, I think it would be useful for the Committee to know, first of all, how many are in storage and if that is the use they have been put to: because it was flagged up in the National Audit Office Report that that was a likely use of the helicopters that were going into storage?
Sir Kevin Tebbit: Some obviously will be, but as of now—

Q60 Mrs Browning: If you do not have the figures today—
Sir Kevin Tebbit: I can certainly say—I said to you I did not think any were being used for spares at present and I can confirm that is the case.

Q61 Mrs Browning: Would you just check and, if there is any difference in that—
Sir Kevin Tebbit: No, I can confirm now that that is the case.

Q62 Mrs Browning: Thank you very much. Can I ask you how things are looking now in terms of training? How do you currently see the situation with the availability of people to train as pilots and also the training schedule itself?[4]
Sir Kevin Tebbit: You are referring to training in general?

Q63 Mrs Browning: Yes, the Apache particularly.
Sir Kevin Tebbit: I have not come prepared to discuss Apache training, I am afraid, because this is not a hearing on Apache, but I can certainly give you a note about the Apache training plan.

Q64 Mrs Browning: There is a shortage of pilots, I understand, or not as many as you would like?
Sir Kevin Tebbit: That may well be. I am not sure whether the shortage—

Q65 Chairman: Direct your question to the Air Vice-Marshal. He can give a general answer.
Sir Kevin Tebbit: But I am afraid this is not covered by this Report.

Q66 Chairman: I know, but it must be in his mind anyway. Can he make an attempt at an answer?
Air Vice-Marshal Paul Luker: In terms of training, I think we have got approximately the right number of people now coming into the training system. In specific terms of AH training, the Apache training, we have converted one squadron and the first course has just finished, the second course is in its final six month phase, and those courses have been fully manned as they have gone into training, and the wastage rates were very close to what we anticipated; so I think we are actually on track.

Q67 Mrs Browning: Thank you. The reason I am asking this, Chairman, why is this relevant to this Report, is that it is alright to procure the machines, but obviously that is not the only part of the picture; it is whether there are sufficient properly trained people able to carry out sufficient flying hours to be adequately trained. We know from the quote I gave on page 21 that when it came to Iraq there were serious problems with desert training and deployment training at the time. So, it might be helpful to know, that is why I am focusing on this aspect, and I think that is quite a legitimate question to put to you in the context of this Report?
Sir Kevin Tebbit: It may help to say we will have two squadrons of the aircraft operating by next February; so the operations are ramping up. I am not aware of a particular training deficit in this area, but, you were right, in general we would prefer to be able to give our pilots more training than we do. That does not mean to say we are below absolute standards of competence, but we are experiencing some shortfalls in training.

Q68 Mrs Browning: Thank you. Mr Luker, I understand that the Army draw a very, very valuable resource to them through the training of NCOs in terms of pilot training, but the Navy and the Air Force have some difficulty with this pool of people from which to train because they believe they should have officer status in order to contribute to the flying effort. I wonder if you could just explain to me as a layman why it is different for the Army and the Air Force, because again it seems to me this is an area where there is a pool of people for training?
Air Vice-Marshal Paul Luker: I think there are two answers, if you will forgive me because both the Navy and the Air Force have different approaches to what they do as well. The pool of pilots and observers in the Navy is quite small. They are managed in a broad career as officers and, given the small numbers, it would be very difficult to reintroduce as pilots and observers an additional cadre as it were, of senior NCOs. In the Air Force, where it was judged some time ago that the Air Force was looking for officers as pilots across the board irrespective of what they flew, pilots again are employed potentially to fly any aircraft and they are trained as such at the start. As a result of that, having a small pile of senior NCO pilots within the helicopter community would make it quite difficult to manage, and certainly in terms of cost it comes out as a very neutral equation. By contrast, the Army is able to recruit widely from a body of people who have spent all of their lives within that one helicopter community, and, in simple terms, that is why we have arrived at where we are. We will be starting from scratch. I suspect we might have a different answer, but this is something which has developed over something like the last 30 years, as long as I have been flying.

Q69 Mrs Browning: I think this question is for Sir Peter. In the procurement of the training of pilots for the Apache helicopter it was changed at the last minute in terms of the contract, the original contract perceived to be placed with Westland and then went to a PFI bid, and it was suggested at that time that we would save £23 million by switching to the PFI contract. How much have we actually saved?
Sir Peter Spencer: I do not know. I will have to send you a note.[5]

Q70 Mrs Browning: I would like that note, Chairman, because, given the delay there has been in getting the PFI contract in an operational state, I am very concerned that we have not made the savings that were estimated?
Sir Kevin Tebbit: We did have a hearing on Apache helicopters when we discussed this issue, and this is why I mentioned to you that we changed the procurement brief for training because the original proposal was too expensive, and I think the Committee would not have welcomed it had we taken the more expensive route.

[4] Ev 28

[5] Ev 28

Q71 Mrs Browning: I am not suggesting in this question that you made the wrong decision. I am simply asking you, having made the judgment to change the contract to PFI, whether in fact you have made the savings that were anticipated at the time?
Sir Kevin Tebbit: Not in full.
Mrs Browning: Perhaps you would send the Chairman a note?[6]
Chairman: Thank you very much. Gerry Steinberg.

Q72 Mr Steinberg: Thank you, Chair. I have to say, I do not know how we ever win. I always think it must be good luck than good management, because when we get some of the Reports that we get from the NAO and the Ministry of Defence they are the most appalling Reports of performance and management, and it cannot be a coincidence because it is month, after month, after month, the same sort of incompetence that we get, and then we get you, Sir Kevin, saying you have not come here prepared to answer questions on the helicopter because it is not in the Report. I would have thought that Apache helicopters were part of our helicopter capabilities, because I do think that Apaches are helicopters, are they not? They are, are they not? Yes, they are. It took a lot to think about there!
Sir Kevin Tebbit: I am wondering whether you really want to ask me any questions or whether you want to make assertions and allow me to answer them.

Q73 Mr Steinberg: I want to ask some questions and I want some answers, not some of the flannelling that we get every time you appear in front of us. It is quite amazing that every time you appear in front of us this Committee loses its temper. It is not to do with anybody else. It just seems to be your attitude, Mr Tebbit. The first page of the Report, Mr Tebbit, it says, the very first page of the Executive Summary says, note, "67 Apaches delivered to the United Kingdom but not yet available for operations. Anticipated Initial Operating Capability—August 2004." I would have thought it was quite obvious that people were going to ask questions on the Apache helicopters because we are talking about helicopter capability. Are there Apaches included in our helicopter capability?
Sir Kevin Tebbit: Yes, and I have explained, September 2004, so I am sorry it is a month later than we had said.

Q74 Mr Steinberg: You are sorry that it is a month later, Mr Tebbit?
Sir Kevin Tebbit: The initial operating capability—

Q75 Mr Steinberg: A month later?
Sir Kevin Tebbit: From August to September.

Q76 Mr Steinberg: A year and a half. We had meeting here a year and a half ago. I think it was 12th March 2003 that we had a meeting here when we talked about Apache helicopters, and I do not know how late they were then. How late were they then when we had the meeting in March 2003, and they were not being used, they were in storage?
Sir Kevin Tebbit: Let us be pleased they are there now.

Q77 Mr Steinberg: They were not a month late, were they? It is all right you saying, "Let's be pleased that they are there now." That is a disgusting answer, to be quite honest. You are saying it did not make any difference in terms of Iraq, but of course it did, because if they had had Apache helicopters in Iraq the troops would have been much more protected than they were. As I said before, it is a case of being good luck and not good management.
Sir Kevin Tebbit: They would not have been available for operations in Iraq even if they had been there to the original timescale, Mr Steinberg, because, as Mrs Browning has pointed out, there are other lines of development necessary to use these things effectively: it is to do with delivery, it is also to do with training, it is to do with concepts of operations, it is to do with logistics support; and even if the initial planned date had been reached, they would not have been available for that operation.

Q78 Mr Steinberg: How late were they? From the date they were purchased and supposed to go into operation, how late were they up to a month ago when they were actually brought into service?
Sir Kevin Tebbit: We had our hearing, as you say, 18 months ago, and that was discussed then and they have now been brought into service. What I am saying is that—
Mr Steinberg: How late were they?
Chairman: Let him answer the question.

Q79 Mr Steinberg: He will not answer the question?
Sir Kevin Tebbit: I am. I am saying since our last hearing we have achieved the target we explained then, albeit in September not August.

Q80 Mr Steinberg: But that is not answering the question. How late were the helicopters coming into service from first being envisaged they were going to come into service?
Sir Kevin Tebbit: I will have to give you a note on that because I have not got that piece of information with me.[7]

Q81 Mr Steinberg: I would have thought you would have known. I would have thought Mr Luker would know that?
Sir Kevin Tebbit: Well, Mr Steinberg, you are criticising me for events a long time ago. In this case a 1995 procurement of Chinook. I have apologised for it; I have said it was a flawed procurement; I am ready to talk about what we are doing to prevent these things occurring in the future; but I have to say you only want to dwell on the past.

[6] Ev 28

[7] Ev 28

Q82 Mr Steinberg: I am not trying to dwell on the past, Mr Tebbit. What I am trying to do is to show how incompetent the Ministry of Defence is: because you ballsed up the Apache; you also messed up the Chinook; you also messed up the Lynx. Three times three major acquisitions have all been messed up by the Department. It is no good saying that the Apache was a one-off, because it was not. I actually asked Sir Peter a question on 25th February 2004. I will read it if you want. What appeared to us to be a debacle of the Apache helicopter, where we had brand new Apache helicopters, state of the art machines, which could have been used apparently in the war in Iraq but were in storage because there were no pilots to fly them. They had not been trained. In this Report it seems you are going down exactly the same line with the new Typhoon aeroplanes. You are not splitting training and manufacture. You seem to have the same contract as you had for Apache. Sir Peter responded that he thought there was a misunderstanding of the statements of the training which were on track in this case. What I would say in terms of whether or not we are addressing that particular problem such as the attack helicopter is that the first bullet to improve the ability to manage projects on a war-like basis is precisely what we are talking about, because what we are making sure is that not only do we deliver the equipment but that it is affordable and sustainable through life, that we are identifying the people we need to man it, that we are identifying what we need to do to get them trained and we are making sure we put the infrastructure into place so that we can look after it as well. This is part of the remit of the single resolution which looks across all of what in Army terminology are called "the six lines of development" to ensure that there is coherence and that we do not have the attack of the helicopter again. I have found great difficulty in understanding what you were saying, but I gather what you were saying was that it will not happen again; but it did happen again. So every time you come to us with a failure you tell us that it will not happen again, but it does happen again. It happened again with the Chinook; it happened again with the Lynx; it happened again with the Typhoon planes.

Q83 Chairman: I think he has got the message. Sir Kevin, what is the answer?
Sir Kevin Tebbit: The answer . . . I am not quite sure what the question is.
Mr Steinberg: I will tell you what the question is?

Q84 Chairman: Do not repeat the entire question!
Sir Kevin Tebbit: As I explained at the beginning, this particular procurement, in my view, was flawed at the outset, at the outset in 1995, and it went even worse in 1997. I am sorry about that. I believe we are now putting it right and have been putting it right through the various changes we have been making to our procurement processes since then. There is nothing I can do to put it right simply over night, but this was—and you have heard from Sir Peter Spencer about the reforms he is making to procurement and I have explained what went wrong and what we are ensuring will not happen again. In terms of Apache, yes, the training provision did go wrong. At the time I think we took the right decision because of cost-effectiveness reasons—it seemed too expensive to go down the route we would otherwise have had—but we are now working well and we have got Apache into service. As far as Typhoon is concerned, I am not sure why you are linking that at all. This is a very complex four-nation project. It is late—I accept that. It is not simple to operate a four-nation project, but there is no problem with training pilots on Typhoon, and it is a brilliant aeroplane.

Q85 Mr Steinberg: Are the 67 Apache helicopters part of the helicopter capability?
Sir Kevin Tebbit: Yes; indeed.

Q86 Mr Steinberg: They are?
Sir Kevin Tebbit: They are not all operating at present, no, but they are part of the helicopter capability.

Q87 Mr Steinberg: When we were told that you have 30%, 38% less capability in this Report of what you need to be, now that the Apaches have been delivered, has that made any difference?
Sir Kevin Tebbit: That was a reference to lift helicopters. The Apache is an attack helicopter. It is a different category.

Q88 Mr Steinberg: So that does include . . . So you are still 38% below.
Sir Kevin Tebbit: 38% by one calculation, as I explained, 20% by another.

Q89 Mr Steinberg: Could you turn to page 31? We are told on page 31 in paragraph 4.3 that there is also an 80% shortfall in ship-optimised helicopter lift, and it goes on to explain. What actions are you taking to ensure that as soon as the amphibious part of the Rotorcraft is available; they will go straight into service?
Sir Kevin Tebbit: Firstly, we are up-engining the Sea King Mk4s which will help to ease some of this shortfall in ship-optimised helicopter lift. As I say, also the capability can be addressed by deploying land-optimised helicopters. Although that is quite tricky, we have done it, we did it recently. It does mean extra costs in logistics and manpower, but that is another way of mitigating that issue.
Mr Steinberg: Are you saying that you have now learned your lessons after all of this sort of—
Chairman: Just say, "Yes"!

Q90 Mr Steinberg: —confrontation that we have had?
Sir Kevin Tebbit: I am saying, "Yes".
Chairman: Is that it, Sir Gerry!

Q91 Mr Steinberg: One of these days I will get a knighthood. Sir Kevin will make the recommendation! Just before I finish could I ask you about the Chinook HC3 helicopter? You say you have learned your lessons—this is the point I was trying to get to right at the beginning and, if you had

answered the question when I had asked right at the very beginning, we would not have got into the confrontation that we did. You say you have learned your lessons, but you never do though, do you?
Sir Kevin Tebbit: I said we had implemented them.

Q92 Mr Steinberg: But you never do: because you have the Chinook helicopter. You read it and you just cannot believe it. It would be actually funny, would it not, if it was not so serious? The equipment that you wanted to put into this helicopter cockpit would not fit?
Sir Kevin Tebbit: This was in 1997.

Q93 Mr Steinberg: Yes. You had eight helicopters, costing £259 million, which I have helped to pay for out of my taxes. We had them ordered in 1995?
Sir Kevin Tebbit: Then there was a requirement change before 1998.

Q94 Mr Steinberg: Yes. So we start off in 1995 to buy equipment that we desperately need?
Sir Kevin Tebbit: We certainly wanted it, yes; correct.

Q95 Mr Steinberg: It cost £259 million.
Sir Kevin Tebbit: That was the estimate.

Q96 Mr Steinberg: But then you find out that you cannot put the equipment in the cockpits?
Sir Kevin Tebbit: There is a bit that comes before, Mr Steinberg. In 1997 there was a requirement change.

Q97 Chairman: We have had all this history already.
Sir Kevin Tebbit: I know.
Chairman: Thank you very much.

Q98 Mr Steinberg: The final thing is that they have been standing in storage, have they not, for 10 years?
Sir Kevin Tebbit: No. They were not built. The project only began nine years ago.

Q99 Mr Steinberg: But they have been on the cards for 10 years and they are still not working; the same as the Apaches?
Sir Kevin Tebbit: Can I explain why we have learned the lesson and why I want to prove it? We received them in December 2002. We have not rushed into other solutions because we have been told that there is a good path to make sure they are fit to fly under our standards, have got the right defensive aids and health and usage monitoring and the right special forces fit, but we are not simply saying, "Fine, carry on", again. We are saying, "No", this time, as we do with all projects now, we are evaluating them properly, we are bounding the risk, we are spending some money (£13 million actually of tax-payers money) to make sure we have got it right, and then we will make our decision. Meanwhile, we have written them into the accounts at only spares value because it would be improper for us to give a valuation until we know what we are going to do about it. It is prudent accounting rather than wasting £200 million. I do not know what answer we are going to have, we will come to a conclusion very quickly, but I am as irritated as you are about the failure of this procurement; all I am explaining is that I am putting it right.
Mr Bacon: Sir Kevin, I do not want to dwell on the Apache, but I do want to clarify something that you said in an earlier answer which Mrs Browning had a go at, but I am still not completely clear because I remember the original report that said there were 67 helicopters worth £1200 million in storage at Salisbury Plain at a cost of £6 million over several years, three to four years. You said in answer to an earlier question, "I am pleased to say" . . . I am talking about Apaches?
Chairman: This, to be fair to Sir Kevin, is not a hearing on Apaches. If you want to, use it as a background to your question, but it is not fair on him. He is not briefed to come to this hearing to talk about Apaches.

Q100 Mr Bacon: Chairman, I do not want to unnecessarily spend time talking about Apaches, but it was Sir Kevin who made the point. He was pleased to say to this Committee they can now fly. My understanding was that they could always fly but that there were not enough trained pilots.
Sir Kevin Tebbit: I meant operationally. What I meant was that they had entered service; initial operating capability has been declared and the first squadron is now in service, there will be two squadrons by next February.

Q101 Mr Bacon: When will all 67 be out of the shed and operating?
Sir Kevin Tebbit: All 67 will not be, because part of that was the attrition buy, which is the case with all aircraft, as you know. April 2007 will be—

Q102 Mr Bacon: In other words, three to four years of storage is still accurate?
Sir Kevin Tebbit: Not for all of them, obviously, but some aircraft.

Q103 Mr Bacon: If you are able to give us a note on the up-to-date position and how it is going to progress, that would be very helpful, rather than dwell on it any further now.[8] Sir Peter, may I ask you a question? It says in your CV that you were Assistant Director for the Sea Wolf missile project responsible for procurement and logistics support for all variants of the system. That role as Assistant Director for the Sea Wolf Missile Project included things like project management, did it?
Sir Peter Spencer: Yes.

Q104 Mr Bacon: Did it include having regular review meetings?
Sir Peter Spencer: Yes.

Q105 Mr Bacon: Did it include assessing the risks of the Sea Wolf Project?

[8] Ev 28

Sir Peter Spencer: Yes.

Q106 Mr Bacon: Did it include assessing whether the Sea Wolf missile was likely to explode when our forces were trying to load one and fire it or whether it complied with UK safety standards?
Sir Peter Spencer: Yes.

Q107 Mr Bacon: It did include all of those things. I thought it might. Can you say when you were Assistant Director for the Sea Wolf Missile Project?
Sir Peter Spencer: 1987 until 1990.

Q108 Mr Bacon: 1987 until?
Sir Peter Spencer: 1990.

Q109 Mr Bacon: Thank you. In other words, quite a long time really. You finished that job 14 years ago?
Sir Peter Spencer: Yes.

Q110 Mr Bacon: Sir Kevin, if I may turn to you, in relation to the Chinook project, the idea of having project management, the idea of having regular review meetings, the idea of assessing the risks and the idea of making sure that something complied with UK safety standards is not a new one, is it?
Sir Kevin Tebbit: Certainly not.

Q111 Mr Bacon: We have just heard from Sir Peter it was something he was doing; and I believe it was a successful project, was it not, Sir Peter. He did it successfully on the Sea Wolf side?
Sir Peter Spencer: That is correct, yes.

Q112 Mr Bacon: Who was in charge of the Chinook HC3 helicopter project?
Sir Kevin Tebbit: There was a project manager clearly originally in charge.

Q113 Mr Bacon: Who was it?
Sir Kevin Tebbit: I do not know the individual's name. I think it might be inappropriate for me to give it to you.

Q114 Mr Bacon: It is presumably public information, is it, or is it secret?
Sir Kevin Tebbit: No, it is not particularly secret. I am not in a position to say who it is, I do not know. If you want me to answer it a slightly different question is, who do I blame and what have I done about it? I am perfectly prepared answer that area.

Q115 Mr Bacon: I would rather phrase my own questions and get answers to the question I have phrased rather than having them phrased for me.
Sir Kevin Tebbit: I do not have the name of the individual. I know the project management changed over the period from 1995 until—
Mr Bacon: When we get a CV—in fact we have got one for you—it also says, or usually does, who the previous accounting officers are for the Department since it was set up leading to the present accounting officer, yourself. I think it would be very helpful if you could send us a note of who was in charge of this project when, because, as you say, it was a very flawed project, the whole procurement seems to be deeply flawed, and it would be interesting to know who was running it. Can you do that?
Chairman: Hang on a moment. Sir Kevin and his predecessors are the accounting officers. Under our system they are liable in front of this Committee and they appear before us. I would like to draw breath before we start establishing a new principle. I do not think you need to answer that, Sir Kevin.

Q116 Mr Bacon: Let me ask a different question, Chairman, the question Sir Kevin had himself phrased: who do you blame?
Sir Kevin Tebbit: I blame to some extent the project team; I blame to some extent the central customer in the equipment definition area.

Q117 Mr Bacon: Who is the central customer?
Sir Kevin Tebbit: In those days it was known as the Operational Requirement Staff.

Q118 Mr Bacon: Was that within the MOD?
Sir Kevin Tebbit: Yes, within the MOD. I think that "blame" is the wrong word, but I think there were problems also with the Safety Authority itself and its engagement with the project team. I think there was a weakness of senior staff oversight; and I think also there was contractor behaviour, which was perhaps over optimistic in promising to be able to deliver.

Q119 Mr Bacon: There is nothing new there, is there?
Sir Kevin Tebbit: This is the result of the review which I commissioned into the project to establish this, as I mentioned right at the beginning. I think decisions were made collectively rather than any individual being responsible and I also have to say that I think, as far as could be judged by the review that was conducted, people behaved with the best intentions, but they got things wrong.

Q120 Mr Bacon: They always do.
Sir Kevin Tebbit: Not necessarily. Sometimes people do not behave with the best intentions.

Q121 Mr Bacon: You mean there is mendacity inside the MOD? I cannot believe it!
Sir Kevin Tebbit: I know we do not do it!

Q122 Mr Bacon: You mentioned a report—and I am looking at the Defence Magazine of April this year—which at the time of the National Audit Office Report being published said that, "The Ministry of Defence is close to completing a wide ranging study into its battlefield helicopters requirements." That is now complete?
Sir Kevin Tebbit: That is the future Rotorcraft study. It has moved to the next stage, the project definition stage, I think; and so we expect to take decisions on it between now and next Spring.

Q123 Mr Bacon: This of course was in the Press so you cannot necessarily believe it, but when it says, " . . . is close to completing a wide ranging study" is a bit loose. It was not actually close to completing it?

Sir Kevin Tebbit: It depends what you mean. I expect decisions to be taken by Ministers on what we are going to do by next Spring.

Q124 Mr Bacon: You mentioned the Safety Authority and you said that there were problems inside the Safety Authority. Do you mean the people who promulgate what UK defence standards are and the extent to which they were or were not liaising with the Chinook project team?
Sir Kevin Tebbit: It does seem that was rather weak during this project.

Q125 Mr Bacon: But that would be a generic problem that would have affected the Sea Wolf missile potentially as well, or indeed any project?
Sir Kevin Tebbit: They are not just one person, there are different people involved in this.

Q126 Mr Bacon: There are people who wear a hat that says "Safety Authority (Chinook)".
Sir Kevin Tebbit: That is right.

Q127 Mr Bacon: And people who wear a hat that says "Safety Authority (Sea Wolf)".
Sir Kevin Tebbit: Certainly, "Air Assistance".

Q128 Mr Bacon: Sir Peter got somebody who said (Sea Wolf), who basically was on the ball and you are saying that the (Chinook) people were not so good; is that basically what you are saying?
Sir Kevin Tebbit: I would not necessarily make that comparison; that is not one that I have made. I am just saying that the review indicated several areas where there did not seem to be as close dialogue between the project team and the certifying authorities than perhaps there should have been. Certainly with the benefit of hindsight there should have been.

Q129 Mr Bacon: Mr Luker, can I ask you a question? The Chairman said earlier that you have to look out of the window to see how high up you are; is that correct?
Air Vice Marshal Luker: In the Chinook Mk3?

Q130 Mr Bacon: Yes.
Air Vice Marshal Luker: No.

Q131 Mr Bacon: It is not?
Air Vice Marshal Luker: No, it is a fully instrumented cockpit.

Q132 Mr Bacon: So you can actually fly it along and you can see that you are at 570 feet 1,234 feet, whatever it is?
Air Vice Marshal Luker: Exactly.
Mr Bacon: I had hoped so. Those are all my questions, Chairman.

Q133 Chairman: Thank you very much. But the fact remains, Air Vice Marshal, that for safety reasons you cannot fly this helicopter when it is cloudy; is that correct?
Air Vice Marshal Luker: That is also correct.
Chairman: Mr Jenkins.

Q134 Mr Jenkins: Sir Kevin, when you started you told us that things are going to get much better in the future. Something sprung to mind, have you heard the phrase, "things can only get better"?
Sir Kevin Tebbit: Things are getting better now.

Q135 Mr Jenkins: I began to think that maybe you got brainwashed somewhere along the line with regard to that slogan. Sometimes it does not get better.
Sir Kevin Tebbit: £3.7 billion of good equipment was delivered to the frontline this last year. We are discussing a failure here, we are not discussing the successes.

Q136 Mr Jenkins: We only look at failures, that is what we are here for, in effect, is it not? One of the things that sprung to my mind when you were answering Mr Williams with regard to the Lynx—and was said in the Report, and some of the things that were said in the Report amazed me—that we only had 24 fitted for war fighting although we have 110 Lynx. You mean only 24 were fitted for war fighting in that particular condition?
Sir Kevin Tebbit: In terms of the condition we regarded as the right one for Iraq. We got 77 helicopters into Operation TELIC. Clearly the military authorities have to make their own judgments about which balance of aircraft they wanted to get there in time for that operation.

Q137 Mr Jenkins: We have 110 Lynx in operation, have we not?
Sir Kevin Tebbit: Not fully in operation but nearly 100, I suspect, fully operational. Perhaps the Air Marshal can assist?

Q138 Mr Jenkins: I was just thinking that if we have 24 in war fighting conditions, what has happened to the other 86?
Sir Kevin Tebbit: I think it was for that particular operation, Mr Jenkins, in terms of sand filters and the rest of it.
Air Vice Marshal Luker: Could I address that because I think there is some confusion here? We could field 24 that would fit in every respect for war fighting at the high end of the spectrum, fit for a coalition. The rest of our aircraft do undertake operations but they do it in a range of different environmental conditions and threat conditions, and they are fit for that purpose.

Q139 Mr Jenkins: That is what I was trying to get out of this Report. It sounded that we only had 24 fit for war fighting when in effect we have many more fit for war fighting in different conditions?
Sir Kevin Tebbit: For this particular operation.

Q140 Mr Jenkins: And they should all be fit for war fighting because at the end of the day that is their job.

Sir Kevin Tebbit: In an ideal world they will be fit for all environments at all times, but obviously you cannot guarantee that because you do not know what particular operation you may have to go into.

Q141 Mr Jenkins: We do not get that, do we, because we have a flying platform, as you know, as the Report highlights, and we have a pick and mix arrangement, where we put different bits of kit on as in the different operations. The bit that worries me more is this almost just in time solution, when we buy stuff to fit on, and in the Report it mentions the fact that sometimes pilots feel that they do not have sufficient time, with a new bit of equipment bolted on, to get the training requirement. Do you feel that we are getting the right balance?
Sir Kevin Tebbit: I think we are getting the right balance, but you are quite right. We try to procure things fit for purpose. However, of course, these platforms have a very long life and so there are continuous upgrade programmes as the threat environment changes. Lynx was procured originally for the Cold War, temperate climates, North European plain. To convert it for very different operating conditions meant that we were doing upgrades as we went along—we were in the middle of upgrades actually when this operation came along. Then the third thing is that nearly always for particular operations you need fine tuning, and that is where Urgent Operational Requirements come in.

Q142 Mr Jenkins: It is not the upgrade I am asking about, it is the fact that when you are going to go into a certain area, a certain environment, you put another bit of kit on to the platform and then when that job is completed the kit might come off that platform and be fitted to another platform. So we are using this stuff and moving it around from helicopter to helicopter.
Sir Kevin Tebbit: Sometimes we keep the equipment and sometimes we do not; it depends on affordability as well as other considerations, and it does depend on, as you say, configuring for different sorts of operations.
Air Vice Marshal Luker: May I make a further point, again for clarification? One of the other compromises we have to make is about the physical properties of the aircraft—the more kit we put on it the less troops we can carry and the less missiles we can carry. So it is always a compromise in terms of the physical capacity of the aircraft.

Q143 Mr Jenkins: I am well of the fact that some Forces—not ours—put so much kit on to a platform that when the pilot tried to turn it it lost lift and fell out of the sky. So we are aware of what platforms carry and sometimes we do not get it quite right. I want to ask about the training area, which I am quite interested in, because when we started the Defence Helicopter Flying School, which was started in 1996, you expected we would achieve savings of £86 million on training costs.
Sir Kevin Tebbit: Yes.

Q144 Mr Jenkins: Yet now this has been reduced to £10 million.
Sir Kevin Tebbit: Yes.

Q145 Mr Jenkins: Can you tell us why?
Sir Kevin Tebbit: We have made various contract amendments as we have gone along and the throughput of the helicopter school is now much greater than it was under the original specification. I think the figure is something like 37% or 38% higher output required now than when we first planned it. So it is not the same package. We have more instructors there than we had originally, so obviously that has altered that cost calculus.

Q146 Mr Jenkins: So what you are saying now is that you are achieving better unit costs than you originally envisaged? It is getting cheaper, better value?
Sir Kevin Tebbit: I think we are getting better value but, again, at the expense of being criticised by the Committee, I would agree that the original contract in 1996 was not as tightly drawn as it should have been in terms of specifications, and they have had to be improved as we have gone along.

Q147 Mr Jenkins: We are very used to having contracts not tightly drawn and that is our biggest problem, the fact that we do not feel that we have the expertise sometimes in the Departments across Whitehall to do the job when they negotiate and draw up contracts with the private sector. We are hopefully improving all the time.
Sir Kevin Tebbit: I think so too and we have just had a new agreement with the contractor to share gains in third party usage, where we have times where there is an unavoidable spare capacity and how that can be used to reduce the cost to us as well as provide gains to him. So that is an example of improvement.

Q148 Mr Jenkins: If you could turn to page 21, 3.8, halfway down there it says, "The United States Army hopes eventually to pass Chinook and 'D' model Apache pilots to the front-line in approximately 44 weeks and 53 weeks, respectively. This compares to 110 weeks and 94 weeks, respectively, in the United Kingdom." Could somebody explain to us why the difference is so great, please?
Sir Kevin Tebbit: Even for the United States this is at present still an un-funded aspiration. When you are training pilots—and I am sure the Air Vice Marshal will say more—you have to balance cost and time issues, and if you train people purely on the particular type and mark of aircraft they are going to use, and do not use more cheaper basic trainers, then although you might be able to turn them out as a pilot faster because they have had more experience on the precise type they will use, the costs go up very considerably. So there is always a need to balance cost and time on type and that is basically what is shown in figure 10 here. But, as I understand it, even the United States has not managed to achieve this

because of the funding issues. There is also the question of quality and the standards we require of our pilots, and I do not want to get into an issue which will only cause problems with the US embassy, but we do regard the quality of our trained pilots as very high, and that is a very important point. I do not know if the Air Vice Marshal wants to add anything there?
Air Vice Marshal Luker: Just one further point. I understand that the Americans also conduct more training in squadron service than we would ourselves. We have people going straight into squadron services straight onto operations. We cannot afford that luxury.

Q149 Mr Jenkins: That is part of the answer I want. The other part is we will be looking at this closely to see if there are any lessons we can learn, for our own system. If I can touch briefly on the Chinook issue because in the supplementary memo you said that the fix to field option was the best value for money as a solution to this problem. What other options did you consider?
Sir Kevin Tebbit: I was going to say provided it is demonstrated in this phase where we are spending £13 million to make absolutely certain. I am not certain yet. The other options are the base option, which is the one that is reflected in the accounts, simply use this for spares, which is clearly undesirable. Other options would be to sell them to other countries who regard them as perfectly acceptable aircraft.

Q150 Mr Jenkins: Has anyone shown any interest at the present time with regard to maybe they would like them?
Sir Kevin Tebbit: We are focusing on the fix to field option, but the answer is yes, but I am not in a position to go into details.

Q151 Mr Jenkins: Because we are not going to get a decision from you for some 15 months on which option you are going to take, are we?
Sir Kevin Tebbit: You will get a decision on which option to take, yes, you will, much quicker than that. We also want to take it in the context of our future Rotorcraft plans as a whole, which are in the timescale of now to next Spring.

Q152 Mr Jenkins: I notice on page 31, 4.3, they said we are going to have shortfall on lift-off Naval vessels and partly if the Sea Kings could not do it we would use land based Chinooks, and I thought surely not these because these are not capable of doing the job, are they?
Sir Kevin Tebbit: No, but there is obviously the other Chinook Force as well.

Q153 Mr Jenkins: Yes, we are using the old Chinooks?
Sir Kevin Tebbit: They are very capable aircraft.

Q154 Mr Jenkins: One last question. Looking at the Report—and I have no doubt that maybe we are achieving a lot of what we set out to do—but do you think sometimes we do get value for money in so far as some of the programmes we see coming before us, but particularly the failures, do you think as taxpayers we are getting value for money?
Sir Kevin Tebbit: I am sure you do, but it does not mean to say that we should not try to do better and must do better. But 70% of our projects come into time, cost and quality. What comes before the Committee are some of the ones that do not. Most of our problems, as you know, are connected with four big legacy programmes. This is another one which is unusual in the sense that time and cost were not the problem, the problem was quality, and it has this rather unique difficulty about the safety regulations. I am sure the Committee would not want us to say that we are going to ease safety regulations just in order to have this into service, because that is not what we do.
Chairman: Thank you, very much. Mr Davidson.

Q155 Mr Davidson: Can I start off by congratulating Mr Luker on the honesty of his CV when he comments that his interests are increasingly sedentary and sporadic. Such honesty is to be commended and I hope it will continue throughout the rest of our discussion. Can I follow up the point that was made earlier on, about the question of officer pilots only in the Navy and the RAF? You will have seen the Report here where it refers to the ability of non-commissioned officers apparently to fly the complex Apache and the way in which the Germans and the French are able to have non-officers flying helicopters. Do you understand that this approach by the RAF and the Royal Navy makes it look like snobbery and that it confirms a prejudice, basically, that many of the Forces are just somewhere rotten with snobbery, and that there is no real reason, apart from restrictive practices of the sort that we got rid of in the shipyards years ago, once the British industry had been got rid of, and that there is no real defensible reason for it, it is just there because it is there?
Air Vice Marshal Luker: Perhaps I should have added one further thing to my CV, the fact that I am the son of a career senior NCO. There is no prejudice on my part at all about senior NCOs. I had them under command when I was with the Army and I find them, provided that they are trained and educated to the standard that we need, perfectly acceptable.

Q156 Mr Davidson: Were you a helicopter pilot?
Air Vice Marshal Luker: I am a helicopter pilot.
Sir Kevin Tebbit: Could I just say that this is a Report that I commissioned in the light of the Committee's own recommendations earlier and, frankly, I expected there to be a change, but when I saw the value for money calculations as to how beneficial it would be to change and increase NCOs and bring them into the Navy and the Air Force, I found that under the costings which have been done that it would only be about £1.25 million more beneficial to use NCOs in those two Services, partly because the pay differentials are not that great and flying pay is on the basis of experience and not rank.

Therefore, that was not a great deal but again even that was outweighed by the return on service issues. By and large you get slightly longer from officers than NCOs—it is not a huge difference, but it came out about cost neutral. Therefore, from the point of view of the accounting officer, it was not really worth—and is not really worth—seeking to impose what would be an upheaval on to Services in terms of their structures for the sake of a very small gain at best in terms of value for money. But in terms of equality and in terms of best practice I think this is probably something we may keep reviewing, and with the future Rotorcraft plans, as we bring forward a new group, as it were, of helicopters and see how that beds down in the Joint Helicopter Command, my guess is that we will probably return to it. But as of now, with so many other things going on—and I am just sorry that the Committee has not looked at all the good things that are happening in the whole of the helicopter Rotorcraft arena, which is what the Report was basically about—I think this is not particularly worth the candle at this stage to make any changes.

Q157 Mr Davidson: That is an interesting point because these things are political as well as managerial, and I am very interested to hear that this something that not only would not have cost money but would have saved money, and would have changed the image and reputation of the Services to a great extent. I know that in constituencies such as mine there is an automatic assumption that anyone joining the Services does not have the upper ranks open to them, and that they only join at the level of the ordinary person, as it were, and the highest they can expect to reach is an NCO, which I think is a mistake. And the fact that you are not willing to countenance changing such a practice in order to give a greater impression that the Forces are meritocratic rather than being based on prejudice and snobbery is perhaps regrettable.
Sir Kevin Tebbit: May I say something?

Q158 Mr Davidson: That was a long answer that you gave me and I would like to move on to another issue.
Sir Kevin Tebbit: I would just like to make a comment about the—
Chairman: Carry on. You have given the answers.

Q159 Mr Davidson: Can I ask you to look at paragraph 3.15—and again it is coming back to this point about the Defence Helicopter Flying School? As I understand it, the expectation was that we would get to save £80 million over 15 years. With half of the contract through, the maximum saving is now 10 years. It is reasonable for us to expect if this continues in the direction it has been moving, that by the end of the 15 years it will actually have been more expensive to privatise than to have continued to run it in-house. Is that a reasonable way of looking at it?
Sir Kevin Tebbit: No, I do not think it is.

Q160 Mr Davidson: This is correct, is it not, that it was expected to save £80 million over 15 years and now the savings, with half the time gone, is down to £10 million?
Sir Kevin Tebbit: As I have explained, we have changed the nature of the contract because we have required a higher level of output from the contract.

Q161 Mr Davidson: I understand all that.
Sir Kevin Tebbit: It changes the figures obviously.

Q162 Mr Davidson: But you have accepted this, though; you have accepted this Report.
Sir Kevin Tebbit: Yes.

Q163 Mr Davidson: And the expectation was that you would save £80 million and it is now down to £10 million. Savings, as I understand it, mean the savings of having the PFI as distinct from doing it in the traditional manner and presumably the changes that you have made, upgrading and the like—improvements as distinct from re-writing—and improvements would have been done under the existing system, and, therefore, to compare like with like we still find ourselves in the position where the 80 has come down to 10?
Sir Kevin Tebbit: I think it is very difficult to compare like with like in the way that you are suggesting because, as I say, so many changes have been made to the original contract that it is very difficult to separate it in the way you are suggesting.

Q164 Mr Davidson: Is it not a reasonable way to read this paragraph, to which you agree?
Sir Kevin Tebbit: Yes. The savings have come down, as you say, from an estimated £80 million to the £10 million here. You asked me whether I thought that at the mid-term checkpoint these savings would come down further, and I said that there is no evidence to suggest that that is the case.

Q165 Mr Davidson: We will wait and see, shall we? Can I clarify, in paragraph 3.17, where it is saying that there is an issue as to whether or not the contract provides sufficient incentives to the contract to react to new events, presumably this would not be a difficulty if the contract continued to be held in-house since, presumably, the incentive to react to new events would be the exigency for service?
Sir Kevin Tebbit: It is not in-house, so it is a hypothetical question.

Q166 Mr Davidson: It has some relevance obviously for when they are considering these other things in the future, does it not? The paragraph says, as I understand it, that basically the contractor has to be bribed or incentivised to respond to new events or to correct deficiencies. If the contract was in-house you would not need to incentivise, would you, you would be able to instruct?

Sir Kevin Tebbit: One of the benefits of not having it in-house is that it is run as an independent, separate activity, so that despite all the pressures of our operational demands, like Operation TELIC, the through-put of pilots through the Flying Training School was not affected in any way. That was sustained as a completely autonomous activity because it was what was under the contract.

Q167 Mr Davidson: Would you not have been capable of doing that, had you been running it?
Sir Kevin Tebbit: I am not sure that we would, actually. If we had to run it all as a totally integrated operation it may have been more difficult. I do not know the answer to that question.

Q168 Mr Davidson: That is a question of priorities. Maybe I can ask Mr Luker, surely it would have been possible, if this had been given sufficient priority, to have continued to run it as an independent unit?
Air Vice Marshal Luker: I think what we have seen from it is that it has freed up some of our people to go and do things that we need them for on the frontline. So you would need to take that into account as well. But, frankly, it does not sit under my purview, so I am not really an expert who can answer it.

Q169 Mr Davidson: Moving to the question of a common approach on air worthiness, again this reminds me of what the situation used to be in the shipyards, where you used to have enormous lines of demarcation, all based on vested interest, rather than having the efficiencies that we now have through flexibility. Does it not seem here that insufficient progress has been made in moving forward to best practice in terms of reducing the three separate streams and that, effectively, you are paying extra—we are paying extra—as a result of this insistence upon continued restrictive practices? Sir Peter, are you the best person to answer this?
Sir Peter Spencer: What I can say is that we are moving in the direction of a much more integrated process along the lines that you have described, and it has already shown to have worked well in the case of the Attack helicopter which was going through it at about the same time. So it is a further indication that the management of Chinook Mark 3 was not as tight as it should have been, which is a point which has been conceded several times this afternoon already. I am continuing to take a very close look at that because clearly unless we engage people right from the outset to understand the safety issues and the airworthiness issues, and factoring and understanding the risks and shape the management of the projects accordingly, then we are not going to succeed. All of this is part of the risk reduction studies as we take this programme forward.
Sir Kevin Tebbit: We are moving in the direction you are seeking; we are now harmonising it.

Q170 Mr Davidson: Absolutely. I think you are. But do you both understand why we are somewhat frustrated when we find that the progress that you make on many of these areas is much more gradual than we would wish? It is a point that some of my colleagues made earlier on about lessons not being learned speedily enough; that we find difficulty in getting to terms with the reasons why the MOD, as a learning organisation, seems to be much slower at learning than many of the other organisations with whom we deal?
Sir Kevin Tebbit: I think the reason is that we do have to have strong governance in safety is that the sort of things that the Ministry of Defence has to do do carry much greater risks than are normal in ordinary civilian life. So there is a need to ensure that people who are going to authorise—

Q171 Mr Davidson: It sounds like an alibi rather than an explanation.
Sir Kevin Tebbit: No. So what happens is that you have one organisation that sets the football field, the pitch, if you will, within which the various Release to Service Authorities can play, and they define an area within that pitch that is relevant to their particular operations. It is not because they are single services, it is because of the specific roles that the particular aircraft or aircraft type is going to perform. So at the moment we have three different Release to Service Authorities.

Q172 Mr Davidson: I understand that. Other organisations deal with complex objectives.
Sir Kevin Tebbit: I do not think it is a problem, Mr Davidson. We are aligning those three processes.

Q173 Mr Davidson: We are not really getting very far. Could I just ask finally, Chairman, of the five recommendations—and I have only really touched on two of them, (b) and (c)—does the Department accept the thrust of the five recommendations on page 5? And, if so, when can we expect to see progress? Again, my concern is that lip service is often paid but progress is mighty slow.
Sir Kevin Tebbit: Mr Davidson, this is merely a Report about what we are doing. This is mainly picking up what is happening in the Ministry of Defence, commending us for it, and saying, "Can you go further in certain areas?"

Q174 Mr Davidson: Look at (c), " . . . the Army practice of using non-commissioned pilots". Basically, we are saying that you should consider doing this and you give me waffle—
Sir Kevin Tebbit: That was not waffle at all. I said we have considered it, we have looked at it thoroughly, a report has been done—

Q175 Mr Davidson: And you are not doing it.
Sir Kevin Tebbit: There are 36 RAF pilots who came through from the NCO stream that are now officers. One-third of the Naval officers were NCOs originally. I agree with you about equal opportunities, but the idea that there is an old-fashioned anachronistic issue here is really not relevant. The reason for not changing is that it would create another large structural change for two Services—

Q176 Mr Davidson: So that is a "no" then?
Sir Kevin Tebbit: And there is not much value for money in it, as far as I can see.

Q177 Mr Davidson: That is a "no" then, is it not? That is a "no" for (c).
Sir Kevin Tebbit: That is not now; it is a "not now".

Q178 Mr Davidson: It is a "not now". So how many of the others are "not nows" and what I would see as "no"?
Sir Kevin Tebbit: The first one, "Streamline flying training consistent with flying standards," yes, indeed, we are doing this, we are continuing to do it.

Q179 Mr Davidson: That is a "yes", is it?
Sir Kevin Tebbit: Yes. And the UK Flying Training System will help there.

Q180 Mr Davidson: (b) is a "yes" as well, is it?
Sir Kevin Tebbit: We have reviewed; we are going to align Release to Service procedures, and we will consider moving to a single Release to Service Authority.

Q181 Mr Davidson: You will consider?
Sir Kevin Tebbit: We are aiming to do it, but we have to align our processes. These are safety issues, these are not just organisational questions.

Q182 Mr Davidson: Can you understand why we get frustrated sometimes?
Sir Kevin Tebbit: Where discrepancies still exist we will quantify them with the aim of getting rid of them and moving to a common standard.
Chairman: That is a very good way of summing-up the MOD position. We now have a few supplementary questions, I am afraid, Sir Kevin, from Mr Williams, Mr Bacon, Mrs Browning, Mr Jenkins, Mr Steinberg and myself. We will try and get through them as quickly as possible.

Q183 Mr Williams: I do not apologise for the fact that we are having to come back on supplementary questions because of course this is really two separate reports. What happened is that it should have been focused on on its own, the actual availability of the helicopters and therefore concentrate on the Chinook, and so on, and that should have been one report. Then we should have had another report on the extremely important changes that are taking place in terms of military organisation.
Sir Kevin Tebbit: I do agree.

Q184 Mr Williams: That has confused things, so we will go on, if I may, to a calmer stage of the Report. I would like to start with you, Air Vice Marshal. As a helicopter man you would agree with the sub-heading on page 2, "Battlefield helicopters are a key capability"?
Air Vice Marshal Luker: Absolutely.

Q185 Mr Williams: In your military opinion, looking at the trends in the type of aircraft that are available and the type of warfare we are likely to be engaged in in the future, do you see this as becoming more key or might it become a diminishing role?
Air Vice Marshal Luker: In the next 25 years I cannot see it diminishing. Beyond that, new technologies, I am sure, will take over from where we are now.

Q186 Mr Williams: I then come back to the point that my colleague, Ian Davidson, has been raising. In your supplementary memorandum,[9] Sir Kevin, you refer to your review and you say that NCOs *could* fly Royal Navy and Royal Air Force helicopters, but it concluded that in contrast to the Army, "these Services require pilots to have the experience and military command judgment of officers". That is different to what you have been arguing here today; what you have been arguing today is that it will disrupt the system if we go in and change things around. Why do Naval and Royal Air Force helicopter pilots have a different quality of requirement? It cannot be inexperience, so military command judgment?
Sir Kevin Tebbit: I was stressing the points that were most important for me in accepting what the Vice Chief of Defence Staff proposed. The issue as I understand it—and I am sure the Air Marshal should come in—is this, that there is a view that in the RAF the RAF exist to fly and pilots, including helicopter pilots, have a wider role than just flying helicopters; they are the source of higher command, both controlling flying operations and indeed in higher staff posts. Also, when they are operating them RAF helicopters tend to operate across a wide area, across major command boundaries, and the argument therefore is that it is more suited for officers to perform that function.

Q187 Mr Williams: Are you suggesting then that that does not apply to Army pilots but it applies to RAF or to Navy pilots?
Sir Kevin Tebbit: As I understand it, the argument that is provided for me in the Report that I received is that this is less true of the Army Air Corps, who tend to operate within the battlefield context under a specific command of the organic brigade to which they are assigned, and therefore their role is less independent and requires less independent activity at a distance, from a large geographical distance from the home base. Naval pilots are usually single pilots, as opposed to two—

Q188 Mr Williams: Are you suggesting that the Army pilots get homesick when they are a bit further away but that the others are all right? It is a nonsense argument.
Sir Kevin Tebbit: There is an argument that there are different roles which underpin this. I was not majoring on that as the main argument; the main

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argument for me is, as I say, that there would be a structural upheaval if we changed it. There is a lot going on via change. Goodness me, this Report shows just how many different studies and activities are underway within the helicopter community. And in terms of straightforward value for money, from the accounting perspective, there was not an argument to proceed. There is a different argument about the quality of opportunity that Mr Davidson made which, personally, I am very sympathetic to, which is why I do not think this is going to remain a closed issue.

Q189 Mr Williams: We have had a rather lengthy answer to a rather easy question. Air Vice Marshal, do you really see major significant differences between the roles in the Navy and in the Air Force? I remember when I was doing my OP2 there was a sergeant pilot in the RAF who actually got his commission at the same time as I did. So we have had NCO pilots from way back in time. I find it very difficult to believe that there is this major capability gap between the one type of pilot and the other. When Sir Kevin rushes in to answer it suggests to me that he does not want you to answer, so I would like you to answer.
Sir Kevin Tebbit: It was a Report to me, simply that—
Mr Williams: You see what I mean, Chairman?

Q190 Chairman: Just let the Air Vice Marshal give the answer, as a son of an NCO, and let us finish with this.
Air Vice Marshal Luker: I think there are subtle differences, I do not think they are major, and I think the major reason why the three Services would prefer to continue the way they are at the moment are the ones we have already articulated.

Q191 Mr Williams: We will move away from that for a second, to Sir Kevin's relief. Obviously the availability, both of pilots and of aircraft, is going to be a key factor. Back to you now, Sir Kevin. It puzzles me that the Department has two different methodologies, according to your own supplementary brief, of assessing the measure of shortfall. It seems to be one which is used in the Report, shows 38% which you, under your alternative formula, say could be 20%?
Sir Kevin Tebbit: Yes.

Q192 Mr Williams: Why do you have two and how do you know which one is right? And why is it right for one Service and not right for another?[10]
Sir Kevin Tebbit: Sorry, no, this is not about one Service and another. But to answer your question, as I said the 38% figure is the figure used by the Equipment Capability Planners in their ideal world. It is, if you like, no risk; you have all the helicopters you could possibly want for every mission. The figure we used, 20%, is the one derived from the Defence White Paper in 2003 and the capabilities derived from that, where one is prepared to say that you do not need them all for every single scenario. I quoted the medium-scale peacekeeping scenario.

Q193 Mr Williams: If we can go to the first few lines of paragraph 4.2: "The Department does not quantify"—it does *not* quantify, not does and then takes other things into account—"the total amount of helicopter lift required to fulfil its Military Tasks." To someone outside the Military and outside the Department of Defence it seems absurd that you can have military tasks. Do you quantify the number of tanks you need and the number of ships you need, but not the number of helicopters? And do you quantify the number of fighter aircraft?
Sir Kevin Tebbit: Clearly we do quantify because we have those figures of 38% and 20%, but we do look at the effects we create, not necessarily the precise platforms we use, and of course there are certain interchangeabilities here. You do not necessarily use a helicopter for something when you could use other Forces for the same purpose. So there is a degree of, if you like, military management that has to take place, which is why you cannot be absolutely precise. I am sure the Air Marshal could explain that.

Q194 Mr Williams: Not being absolutely precise is one thing, but having 100% difference between the one formula you used and the other formula you used—one says 20% and the other says 38%, that is double, that is 100% more. Mixing the percentages it is double. I was not playing games, I was just stating facts in a different way. For one quantification to be double the other it must mean that there is a hell of a danger if you are using the wrong one, particularly if it is a low one.
Sir Kevin Tebbit: I did explain an example. Medium-scale peacekeeping, the Forces you need at the initial phase of the six-month period of operation are not the same as you are going to need towards the end.

Q195 Mr Williams: Of course not, I understand that.
Sir Kevin Tebbit: That is the answer to that particular question. One exercises those judgments, the other one does not.

Q196 Mr Williams: But it still does not answer my question, how do you get a 20% shortfall out of your way of interpreting it when the other one, which you have accepted, you do not have any reservations here, claims 38%?
Sir Kevin Tebbit: It is in the Report. The 38% is taking absolutely no risks whatsoever and ensuring that you have every helicopter needed for every possible task. That includes discretionary tasks as well as what is essential to be successful.
Mr Williams: When you are saying that it is taking everything into account the other formula, which is half as high, it seems an amazing gulf, particularly when you look at what you signed up to, in paragraph 4.3, where the point is made that the model which gives the 38% does not measure factors such as mobility, amphibiosity, launch platform considerations, load sizing to minimise attrition risks and through-life costs. It does not take those

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into account, but not only does it not take those into account it also in the next paragraph says that furthermore it does not take into account the Harmony guidelines, which is trying to get a more reasonable assessment of pilot needs. Are you saying that these are taken into account in your 20% and not in your 18%? That seems ludicrous, does it not?
Chairman: We are not getting anywhere.
Mr Williams: I want an answer.

Q197 Chairman: Try your best, and it is the last question on this point, otherwise do us a note.
Sir Kevin Tebbit: I will do you a note. The 20% comes from our Defence White Paper calculations which I can send you a note about to explain precisely what it is.[11]

Q198 Mr Williams: Before we leave that, it comes from your White Paper calculations and what you are saying is it comes from the money that is available not from the equipment that we need?
Sir Kevin Tebbit: That is also true.

Q199 Mr Williams: I know, but I would like to know the answer. If we are sending our troops out with half the helicopters they should have because we are not providing the money, let us say so, then you do not get the blame—or at least the Air Vice Marshal does not get the blame, but you and the Department and the Ministers might get the blame. We need to know which it is. Saying that it is because of the White Paper is actually saying a policy decision has been made—
Sir Kevin Tebbit: I was explaining the methodologies.

Q200 Mr Williams: . . . and it takes no account of actual need. We are now tailoring our assessment of shortfall on a financial basis, not on a Military Task basis; is that not the reality of it?
Sir Kevin Tebbit: Not quite.

Q201 Mr Williams: Not quite but very near.
Sir Kevin Tebbit: We have a scale of operations that we should support—two medium and one small-scales. The 20% funding refers to what we think we need in order to effectively discharge concurrently two medium and one small-scale operations. To that extent you are right, there is still a funding issue but it is not as big as the 38%.
Mr Williams: We will really look forward to this document.
Chairman: Thank you. Mr Bacon. I must ask colleagues, please, to be fair to Permanent Secretaries that appear in front of us, that the total time of questioning—and can I appeal for short answers?—is 15 minutes.

Q202 Mr Bacon: A question for Mr Luker and then one to Sir Kevin. In relation to the altimeter question I asked earlier, can I refer you to paragraph 3.41, where it does say: "The Chinook HC3 is currently restricted to day/night flying above 500 feet in weather clear of cloud, and where the pilot can fly the aircraft solely using external reference points without relying on the flight displays." Are you saying that notwithstanding all of that it would still at any one time be possible for the pilot to tell his altitude?
Air Vice Marshal Luker: Against what is displayed in front of him within a certain amount of accuracy, yes.

Q203 Mr Bacon: So it is for other reasons that he has to be able to fly it without relying on flight displays?
Air Vice Marshal Luker: Because the aircraft does not meet our safety standards.

Q204 Mr Bacon: Sir Kevin, I would like to explore a little further this question of fix to field and the potential future use of the existing aircraft, that you referred to in your supplementary note, and I think Mr Jenkins asked about this as well. The £13 million preparation phase which is now underway, which is referred to in your note, leading to a final decision on the HC3, which is due in mid-2005, can you clarify is that a final decision due in mid-2005 on whether the extra £127 million referred to in paragraph 3.43 is going to be spent?
Sir Kevin Tebbit: I wish it were as simple as knowing precisely what the figure was. That is why we are doing a risk reduction study.

Q205 Mr Bacon: In the region of it?
Sir Kevin Tebbit: Yes. To decide whether the fix to field solution is indeed viable, is indeed technically achievable. We have had some bad experiences.

Q206 Mr Bacon: Can I just clarify the position? In paragraph 3.43 the phrase "fix to field" is not used, but essentially the capability required by mid-2007 will necessitate additional funding, estimated to be in the region of £127 million. That is the fix to field solution?
Sir Kevin Tebbit: It is to do three things. It is to replace the avionics so that we can certify airworthiness on the basis that meets British standards; it is to provide the Defensive Aid Suites and the Health and Usage Monitoring System that we would need to put in as a separate project anyway because that came along through the life of the project—that was not in the original specification. Thirdly, to meet the current Special Forces' requirements where, again, over time we have learnt that we need a higher quality provision than perhaps we thought originally. So it is to do all three things. One-third is to sort out this airworthiness issue, the other two elements are doing those other two things. I would not like to say precisely how much it is going to cost because until we have done that I am not satisfied that we have an accurate figure yet.

Q207 Mr Bacon: So that is why it is in the region of?
Sir Kevin Tebbit: I am not satisfied yet.

Q208 Mr Bacon: You mentioned Special Forces. It is the government's policy that there should be an expansion of Special Forces—it was announced

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recently—and obviously Special Forces need things like Chinooks. Notwithstanding the flawed procurement, which you call it, which is as thorough a going "horlicks" as we have seen, is it nonetheless the case, having spent £300 million—
Sir Kevin Tebbit: £252 million.

Q209 Mr Bacon: I read £259 million but I was just rounding up.
Sir Kevin Tebbit: That was an original assessment of how much it would cost.

Q210 Mr Bacon: I am sure it will be £300 million. But having gone so far, is it not your expectation that it is likely to be sensible to go the rest of the way to get these eight existing aircraft functioning, given the policies of the government?
Sir Kevin Tebbit: That is why we have changed. The policies of the government are very clear but I am not prepared to just give aspirational optimistic views until we understand precisely what is involved, and this is the problem of what went wrong. People said, "It will be fine," but it was not and they did not do the risk reduction work and until that work is completed I cannot give you that assurance.
Chairman: Thank you very much. Mrs Browning.

Q211 Mrs Browning: Just on a point about the pilots and the staff needed to maintain the helicopters, could you confirm that that group of people would be outside the government's recent announcements in reducing manpower across the Services?
Sir Kevin Tebbit: Yes, I have no sense that Chinook pilots would be in any way involved in anything of that kind. It is not a question I expected, which is why I am hesitant; but the short answer is yes.

Q212 Mrs Browning: I understand, for example, that within the Army now if people indicate that they wish to leave the Service, rather than being encouraged to stay for a couple of years they are invited to leave immediately, and I wanted confirmation that not only the pilots but the engineers who maintain the helicopters would not fall within that sort of policy.
Sir Kevin Tebbit: I am not aware of that policy in the Army. Remember the changes in Army numbers are very small. We have a current strength of 103,000 and what we have announced is going down to something like 102,000, and that is over quite a period of time. I am not aware of what you are talking about in the Army, unless it may be in very specific areas.
Air Vice Marshal Luker: May I add a rider, lest there be confusion again? I do not think there is any intent in terms of formed units of people in that sense, but of course any individual might volunteer for redundancy if there was redundancy available, and that would be true in the Air Force. Or might wish to be part of those being considered for re-brigading within their own Force. We are doing a logistic transformation programme at the moment and we are doing other programmes, which will change the nature and the balance of the Forces that we have within the helicopter world.
Sir Kevin Tebbit: Sorry, you were talking about pilots?

Q213 Mrs Browning: I was talking about pilots and also engineer support staff.
Sir Kevin Tebbit: I could not guarantee that in terms of engineer support staff because, as you know, in this Report there is quite a lot about procurement efficiencies. The end-to-end logistics process includes one for helicopters and this concept of moving to depth and forward—actually in the Report it is not called forward—support with the contractor providing depth support and the Services doing the forward element, that could affect things. I have no particular information about this particular Force but more efficient procurement, more efficient logistics can have an effect on things and probably will in the Defence Logistics Organisation.

Q214 Mr Jenkins: Three quick points, Sir Kevin, and if you do not know the answer—and you might not—I would be grateful if you could send me some details on it. How long do helicopter pilots serve after they have been trained? How many leave and go to better paid jobs in civilian life? And the third part, when we set up the Defence Helicopter Flying School in the PFI, where did the company get their trainers from?
Sir Kevin Tebbit: The first answer, the return of service, which is the important thing, for helicopter pilots tends to be around 17 to 18 years—actually 16.5 is the lowest in one of the three Services but 18 in one of the others, so it is between 16.5 and 18 years' return on the investment in flying or flying-related posts. That is the first answer. Sorry, the second question?

Q215 Mr Jenkins: When they leave do they go to civilian life and get better jobs as helicopter pilots?
Sir Kevin Tebbit: They quite like it, which is why they last and stay that long. Currently there are programmes to encourage them to stay even longer, extension programmes with financial retention initiatives for the RAF; and for the Army they are reviewing—and I think already changing—the rules for when NCOs, for example, have to retire, to try to get more service out of them. But when people go, often they still do flying; they might even become part of the PFI organisation that provides training.

Q216 Mr Jenkins: That was the third part: when they set up as a company where do they get their trainers from?
Sir Kevin Tebbit: Many of them I think are ex-servicemen.
Air Vice Marshal Luker: The large proportion but they do come from the civilian field as well.

Q217 Mr Jenkins: So they were ex-servicemen, they were not serving officers?
Sir Kevin Tebbit: They would be ex if they were employed by the PFI company.

Q218 Mr Jenkins: I want to know if anyone actually left to join the company?

Sir Kevin Tebbit: I cannot say that there would not be, but, as I say, the return on service is pretty good in all of these Services.

Q219 Mr Steinberg: Two quick points, I want to come back on a couple of things that you said. You said that you were disappointed that we had not praised a good report and that we had picked the points out that were not very good. Surely a good report would not tell us that eight helicopters costing £259 million, which were delivered in 2001, are still in storage now and are not expected in service until 2007 at a further cost of £127 million, Sir Kevin?
Sir Kevin Tebbit: What I meant was the achievements of the Joint Helicopter Force and all of the changes which are picked up in the Report and the NAO have encouraged constituted, in my view, a tremendous achievement, not just for the Armed Forces but also the civilians in logistics and training and other areas. There are 13,000 people, I think, in the Joint Helicopter Command who do tremendous work and much of the Report is about the work they do. So without wanting you not to, as it were, pose me hard questions, I think it is important to recognise and acknowledge that. The second point, I did try to explain that although I do not duck the criticism about this flawed procurement—and I began by saying it was a deeply flawed procurement and explained what we are doing about it and where it went wrong—the whole of the costs to put it right are not to do with the flawed procurement, they are to do with upgrades that are still needed but which have arisen during the course of that procurement. We fitted those upgrades to Chinook Mark 2s and 2As and we need to do that to the Mark 3s if we are to accept them into service for the role intended, and those extra costs would come on top but within that overall amount of money. In other words, only one-third of that money is to do with fixing the airworthiness problem. It does not make it right, it does not make it fine, but just to put it in perspective.

Q220 Mr Steinberg: The last point I want to make is that you put great store by the fact that you believed that the training of our pilots produces the best pilots but also puts them in absolutely no danger at all because it is the safest way of doing it. Yet if you read 4.10 on page 33—and I only bring that up because you actually said that, and if I had had more time before, and I accept that I had already had my fair share, I wanted to talk about the training of pilots and the length of difference between American training and British training—and if you read the paragraph where it says, "For example, such was the haste to deploy refitted Lynx Mk7s on Operation TELIC, that two aircraft flew direct from modification at the Defence Aviation Repair Agency, Fleetlands, to embarking ships. 3 Regiment, Army Air Corps were, therefore, unable to familiarise themselves with new Defensive Aid Suites until they arrived in the Gulf, not having had the opportunity to practise with suitably equipped helicopters during their previous year's training." In other words, the pilots were actually sent to the Gulf who were not fully trained, who in fact were not to the standard that you would have expected or hoped, but yet they were sent, which contradicts what you were saying originally about the training of Apache helicopter pilots, and also the fact that presumably if they were not fully trained then you were sending them into the Gulf with the danger of them being killed.
Sir Kevin Tebbit: I was actually talking about the training provided by the Defence Flying Training School and that system, that is to say the basic training and the training to type. I was not referring to the precise operational specific training, although perhaps the Air Marshal could say something about that since it is more in his province when it comes to sending people into scenarios.
Air Vice Marshal Luker: I would agree that we had not given people sent out to the Gulf all of the training we would have liked to have given them, but we always make the assumption that there will be some time in theatre to be able to make good the bits that we have not done. That has a certain risk to it but that is the way that we have managed. What we are good at, I think, is inculcating in our people the ability to take on new equipment, new techniques, new environments very quickly, and we try to do that through a generic basic training. In that—and it sounds boastful—I do not think there is anyone who can beat us in the world.

Q221 Chairman: That last question relates to the question I asked earlier about paragraphs 4.7 and 4.8 on some of the critical capability shortfalls, Air Vice Marshal, and with the scenario of pilots having to familiarise or train at the last minute, so I think I would like you to do a further note on that because we are clearly worried that pilots' lives are being put at risk. Would you do a note for us on that, please, and a considered response?[12] I wanted to ask you why, as a matter of interest, Army air helicopter squadrons are commanded by majors but RAF ones are commanded by Wing Commanders? Would it not be cheaper if Army crews operated the Chinook and Puma fleets?
Air Vice Marshal Luker: I think this is another of those legacy issues that we have from all three Services where we call the same things different names and different things the same names. It is possible within the Army to find a wing that is made up of four people and it is commanded by a Lance Corporal. It is possible to find a wing in the Air Force which is made up of about 500 people. The short answer is that squadrons in the Air Force are different in size and numbers of people and numbers of equipment to those that you find inside the Army, and the nearest comparable unit is a regiment to an RAF squadron. That is why the rank ranging is done in the way it is.

Q222 Chairman: That is a very fair answer. Peter, I apologise, you have not had much of an outing this afternoon, a man of your distinction, and I am

[12] Ev 29-30

sure you are rather upset about that, are you not? Perhaps I can give you a shout very late on. Can you assure the Committee that under Smart Procurement the problems with Chinook will not reoccur?
Sir Peter Spencer: I cannot give any absolute assurances about any procurement programme because we deal with uncertainty and technological risk. What I can assure you is that we will do the risk examination with great care; that we will not be unrealistic in raising expectations as to time and cost and we will put in the right amount of contingencies and it will certainly have the full force of the corporate governance that all of my projects now have, with the new arrangements inside the Defence Procurement Agency with three full-time operations directors who look at these programmes very carefully every month and in particular detail every four months.

Q223 Chairman: Thank you. We know that with this Chinook Mark 3 you did not obtain the software codes of the US made equipment, and that is what we have been told about today. Are you going to ensure that this is not a problem with the Joint Strike Fighter?
Sir Peter Spencer: We are still working through the issues on Joint Strike Fighter and you do not necessarily have to have access to source code to achieve adequate safety assurances, as we demonstrated with the Attack helicopter.

Q224 Chairman: Sir Kevin, you said in your supplementary memorandum[13] that we do not expect to eradicate the shortfall entirely.
Sir Kevin Tebbit: Correct.

[13] Ev 22-27

Q225 Chairman: So we recognise that that shortfall is there, it is not going to be overcome, and that is something that we should be concerned about, should we not?
Sir Kevin Tebbit: The future Rotorcraft programme is there to make things a lot better. I cannot, rather like the Chief of Defence Procurement, simply say it will become completely eradicated; what I can say is that we will have a more robust Force than we have at present, and determined to get value for money from it. I cannot promise when we will close the shortfall.

Q226 Mr Jenkins: That is also derived from the White Paper, I assume?
Sir Kevin Tebbit: No, but this is a genuine point.

Q227 Chairman: I meant it as a genuine point.
Sir Kevin Tebbit: I am very happy to send you the calculations based on the White Paper policies.

Q228 Chairman: Gentlemen, thank you very much for appearing before us. As usual, Sir Kevin, you have come on a sticky wicket and we are grateful to you for trying to answer our questions. But at the end of the day we are left with a quarter of a billion pounds of our taxpayers' money spent on helicopters that simply cannot fly and that is something we are naturally concerned about. You have taken us to task for referring to the Apache, but we can only in conclusion quote Lady Bracknell, that once is unfortunate, twice looks like carelessness.
Sir Kevin Tebbit: Mr Chairman, you did ask me about, on the one hand, were we taking enough account of the safety of our people in various areas, nuclear, biological and the rest of things? Part of this issue is because we do take care of safety, we are not prepared to cut corners and that is where we find ourselves. I think it is very unfortunate. The effort we put in on safety, on Defensive Aid Suites as well, shows that we are careful in that area as well as in the rest.
Chairman: Thank you very much, gentlemen.

Memorandum submitted by the Ministry of Defence

The Report on Battlefield Helicopters published by the National Audit Office on 7 April 2004 offered a number of key recommendations for consideration by the Ministry of Defence, which we have taken very seriously. In addition, this is an area of capability which has been the focus of considerable work over the course of this year within the Department. In view of the time that has elapsed since the Report was prepared I felt it would be helpful to offer a written memorandum, prior to the forthcoming hearing on 25 October, updating you on the current position in all these areas.

I would have liked to offer the memorandum a little earlier, but conclusions were only reached on a number of the key areas very recently. I will be happy to answer any questions you may have on any of these areas at the session later this month.

Sir Kevin Tebbit KCB CMG
Permanent Under-Secretary of State

14 October 2004

NAO Key Recommendation 1: Streamline Flying Training Consistent with the Maintenance of Flying Standards, Where Possible Considering the Overall Single-Service Training Requirements

The Report acknowledges that significant advances have already been made in this area. All three services continue to research methods of streamlining flying training, and action is taken where appropriate. Since publication of the NAO Report, further efficiencies have been generated through adjustment to course syllabi. Courses within the Elementary Flying Training School and the Defence Helicopter Flying School (DHFS) have been re-phased, joint Crew Resource Management training for Qualified Helicopter Instructors and helicopter students has been set up, and joint Aviation Medicine training is under consideration.

In the near term, the main prospect for generating increased cost efficiencies will lie in adjustments to elementary flying training, such as those being explored under the Army Flying Training Study (AFTS), via which the Army is researching the potential for conducting all-rotary training, designed to replace the course currently conducted at the Defence Elementary Flying Training School, prior to their pilots' entry to the joint DHFS basic and advanced training. It is thought that this could reduce the training pipeline length by around 11 weeks. A trial course is scheduled to run in early 2005.

In the future, the introduction of the UK Military Flying Training Sytem (MFTS) should offer substantial scope for improving the delivery of more advanced flying training. The current training fleet does not have the capability to download operational training from advanced platforms, which means that there remains a requirement for pilots to conduct training on more expensive operational platforms, such as Apache. For example, in a simplistic comparison with his RN Merlin colleagues, an Army AH pilot with a total flying experience of 250 hours will have cost an estimated £1 million more to train than the RN pilot (at 2003 prices). This need for type-dependent flying training, with advanced skills being learned on specific advanced platforms (or their simulators) determines the differing nature of flying training pipelines within each Service.

The UK MFTS Integrated Project Teams (IPT) plans to conduct a full, two year, Rotary Wing Training Needs Analysis into tri-Service flying training in order to identify and address the future needs of the front line. This will build on the recommendations of the 18-month study conducted by the Flying Training Development Wing which concluded in mid-2004. The reason for not proceeding more rapidly is the need to await decisions on future equipments and associated manpower liabilities, establishments and operational considerations, to ensure full training coherence.

At all times, quality is considered to be the most important factor in producing military aircrew. The Report recognises that the quality of output from the DHFS is acknowledged by all three services.

There are limitations to how far joint training can be achieved. It is not as simple as having one training system for pilots across all Services. Adoption of best practice within all three Services has reflected dissimilar requirements. Of necessity, producing crews for the varying disciplines, of ship-borne, Attack Aviation and Support Helicopter battlefield environments, requires dissimilar, type-specific training to be carried out.

For example, the RN pilot, who is training for a single-pilot, ship-borne role in a highly complex, integrated weapons and sensor platform, will have more experience on type than an RAF counterpart, but his overall total flying experience of 250 hours will be almost exactly the same. The skills required by the RN pilot by the time he reaches Limited Combat Ready (LCR) status dictate an absolute need for him to be trained on type (as opposed to flying an unrepresentative training platform). Conversely, the RAF, in crewing its Support Helicopter fleet with two pilots, can accept a less experienced *ab initio* pilot on type, having a senior and more experienced aircraft commander on board for every sortie.

In addition, the Services each have different requirements from their training. While the AFTS is exploring all-rotary training for the Army, the RN and RAF are also required to operate Fast Jet and Multi-Engined Air Transport aircraft and their conduct of Elementary Flying Training on fixed wing platforms is an essential element for training and streaming pilots of the correct calibre for these roles.

NAO Key Recommendation 2: Continue to Work Towards a Common Approach to Airworthiness that Overcomes the Inconsistencies in Having Three Separate Channels of Delegation

The Department's airworthiness policy and regulations are joint. Within this joint structure, the individual Services have developed their systems to meet the individual Service operational needs. Key to this is a comprehensive understanding of all the elements (eg Single Service training, trials and development, ethos and modus operandi, as well as technical issues) that contribute to aviation safety. The Joint Helicopter Command (JHC) rightly expects the same standard of service to be delivered by each of the three Service helicopter Release to Service Authorities (RTSAs).

The Department has recently undertaken a review of all airworthiness in the military air environment that has made recommendations for an audit process to ensure an early alignment of Release to Service processes and products, ensuring a common Service to Aircraft Operating Authorities (in this case the JHC). Where discrepancies continue to exist, for example, issues arising out of operating from ships, they will be quantified and where possible a plan will be developed for migration to the common standard.

Further work, in a study by the Defence Aviation Safety Centre (DASC) due to report in November 2004, is to establish the extent to which current tri-Service arrangements for ensuring the safety and airworthiness of Service aircraft remain appropriate in the emerging defence environment, and make recommendations for the future.

Each Service uses the most appropriate internal trials organisation (that is equipped with the appropriate aircraft type and suitably experienced personnel) to assist in the development of operational requirements, to provide independent safety advice to underpin the aircraft Safety Case and in the development of tactics and techniques for the effective employment of aircraft and associated modifications.

The Department will always seek to nominate the most appropriate RTSA. Wherever possible the Department nominates only one RTSA for each mark of aircraft. Having two different RTSAs for the same marks of helicopter was at odds with perceived best practice and the airworthiness responsibility for the very small fleet of Lynx Mk7 and Gazelle helicopters of 847 Naval Air Squadron reverted back to the Director of Army Aviation. When different operational requirements are met by the procurement of different marks of the same airframe (such as the RN Merlin Mk 1 and RAF Merlin Mk3), a single IPT is responsible for facilitating the procurement. This approach minimises duplication of effort in many areas, but the differing roles and operating requirements and platform specification, particularly if operated by different Services, is likely to drive a requirement for different RTSAs. However, follow on work will examine the benefits of a Joint RTSA organisation. Such a study will, necessarily, be lengthy and require the full participation of all airworthiness stakeholders. It will have to incorporate a full legal review of current airworthiness (and Aviation Safety) policy and regulations together with consideration of civil policy and regulation including international and European issues.

NAO Key Recommendation 3: Consider Implementing the Army Practice of Using Non-commissioned Pilots in Battlefield Helicopters Through Examining the Impact of Such an Initiative on Flexibility in Operating the Helicopter Fleet, and Potential Cost Savings

An internal tri-Service study team has reviewed the issue once again and its recommendations have been endorsed by the Vice Chief of the Defence Staff. The findings are summarised below.

The use of helicopters differs in each of the three Services. RN helicopters are operated primarily in small numbers, embarked as an integrated element of naval operational capability, which includes warships, submarines and aircraft. In the Army, helicopters are a Combat Arm, fighting alongside Infantry and Armour, and their operations are integrated closely with brigade, division and corps plans. In the RAF, helicopters primarily operate in support of land operations but in view of the limited number available and the high demand for their use, they are normally assigned at the highest command level, operating across brigade and divisional boundaries.

These differing roles have driven the policies of each Service, which have evolved to reflect both the specialist demands of the individual helicopter forces and the wider command and leadership requirements of the parent Service. Within the Army Air Corps (AAC), officers are employed and trained to become the commanders, executive officers and staff officers of the Corps and the wider Army. In their flying duties they operate as mission commander. NCO pilots are almost exclusively employed in flying appointments and they form the core of AAC aircrew experience. In the RN, helicopter aircrew are required to act as both independent flight commanders and specialist warfare officers, responsibilities that require the experience, military and command judgement of commissioned rank. RAF helicopter pilots are required to operate their aircraft autonomously at strategic distances, in multi-national/joint scenarios, where a thorough understanding of higher command intent, threat assessment and enemy capabilities is essential. They are also a vital component of the Service's Flying Branch, playing their full part in command appointments and staff duties at all levels within a Service which depends upon its aircrew to provide its senior commanders and warfighters.

Following detailed examination of the competencies required, the study found that it would be possible for NCO pilots to operate in a small number of RN and RAF helicopter roles. However, the requirement to maintain a minimum number of officers to provide the necessary command and control element of the forces, both on the ground and in the air, limited the maximum number of NCO pilots the RAF and RN could support to a combined total of 156. There was also a serious risk that the requirement for officer leadership on deployed and embarked operations, could reduce this number still further. The study found that the introduction of this relatively small number of NCO pilots would reduce flexibility of the forces involved and would have a negative impact on the overall rank structure and development of commissioned warfighters in the individual Service.

In costing the impact of the introduction of 156 NCO pilots, the study identified potential savings of approximately £1.25 million; total savings being limited by the relatively small difference in capitation rates between junior officers and SNCOs, and the fact that specialist flying pay is paid to aircrew based on experience not rank. Additionally, the study identified that in view of the lower return of service of RAF/RN NCOs compared with officers, the employment of 156 NCO pilots would require the training of one additional pilot each year to maintain manning levels, effectively negating the £1.25M capitation savings.

In summary, the introduction of NCO pilots to the RAF and RN, while possible to a limited extent, would carry operational and structural penalties, without providing significant financial savings to the Department.

NAO Key Recommendation 4: Reduce the Current Shortfall in Battlefield Helicopters by Eliminating Incorrect Specifications and Slippages in Deliveries

The Department acknowledges a current and projected shortfall in Support Helicopter lift capability. The precise level of the shortfall is, however, dependent on the assessment methodology and its underpinning assumptions, including risk treatment.

The Department uses two slightly different methodologies to inform its decision making. Operational Analysis (OA) is used, primarily at the strategic level, to inform equipment procurement decisions and future capability planning. OA uses a set of illustrative future scenarios in which UK forces might be called upon to operate. The scenarios are considered representative of anticipated future operations and cover the spectrum of conflict and the range of anticipated environmental conditions. Detailed analysis is carried out to model the activity necessary to achieve operational success within acceptable levels of casualties in the scenario, and to determine the equipment capability required to support this. The 38% capability shortfall identified in the NAO Report is based on results drawn from Operational Analysis (OA).

For planning purposes, the Department uses a different methodology to determine the force structure required to deliver our policy goals. This methodology is described in the July supplement to the 2003 Defence White Paper. The methodology uses the same concurrency assumptions as operational analysis, but takes account of both historical evidence and policy judgements about future operations, in determining the required equipment capability. By way of example, based on experience of the last 10 years, we assume that on enduring operations, there is scope for achieving the desired strategic effects with lower force levels over the duration of the operation. Similarly, for intervention operations, we attribute force elements against core tasks which are required to achieve operational success but manage with more risk on discretionary tasks which are assumed to be force-drivers in OA methodology. The required force structure using this methodology is smaller than the pure OA would indicate. Our analysis indicates that the lift shortfall, calculated against the same Medium-Medium-Small concurrency assumptions, is of the order of 20%.

Whilst acknowledging an overall shortfall in Support Helicopter lift capability, the Department has demonstrated regularly its ability adequately to support Small and Medium Scale enduring Peace-Keeping Operations. Our policy assumption is that in such operations once the joint force has been deployed and stability established, lower force levels and lighter forces are required. We therefore have much greater latitude to plan the number of deployed helicopters in this type of operation compared to intervention operations. This could mean that in enduring operations in more benign environments, for instance in the Balkans, helicopter and crew deployments would be drawn down as low as possible, and would be lower than theoretical planning levels. In practice, the shortfall has not prevented us from successfully supporting recent operations in Northern Ireland, the Balkans, Sierra Leone, Afghanistan and Iraq.

In the short-term, we will be looking at ways of improving our current capabilities as quickly as possible. For example, a £1 million measure to upgrade the engines on the Sea King Mk4 will increase the ship optimised Support Helicopter lift capability significantly from Apr 06. Bringing the Chinook Mk3 into service would, by 2008, increase the overall Support Helicopter lift capability by around 13% (see below).

In the longer term, the NAO Report suggested that future helicopter procurements would eradicate the current capability shortfall by around 2017. Following this year's equipment planning round, which reflected the analysis in the supplement to the 2003 Defence White Paper published in July, '*Delivering Security in a Changing World*', there has been some adjustment and re-balancing of our priorities to ensure that we are achieving the right spread of future capabilities from within the resources available to us. We do not expect to eradicate the shortfall in its entirety, but the newly formed Future Rotorcraft Capability (FRC) programme (see below) should offer substantial improvement over the current level of capability, delivered at a reduced cost of ownership.

Chinook Mk3 Lessons Learned

The NAO Report identified the need for the Department to learn lessons from the flawed procurement of the Chinook Mk3. Following the problems experienced by the Ministry of Defence in delivery of the Chinook Mk 3 helicopter, in September 2003 the Department undertook a formal investigation into the procurement process with the aim of:

(a) Establishing the clear points of failure in the project, including any deviation from laid down procedures, and what might have been done differently (and at what stage) to enable the project to be managed more effectively.

(b) Identifying whether the application of Smart Acquisition processes, had they been in place, would have prevented the same outcome in the same combination of circumstances affecting the Mk3 project.

(c) Applying the lessons of this investigation to develop any changes to the Department's approach to securing Military Aircraft Release (MAR).

The investigation covered the project from its inception in 1994–95 to late 2003, identifying the key decisions made and interviewing the main players involved. This work produced recommendations on how mistakes might be avoided, and issues of process mitigated, in the future. The investigation was carried out by senior acquisition personnel from the DPA.

From the recommendations, a detailed action plan has been produced and progress on each of the actions monitored and recorded. The recommendations covered a number of areas:

— Rigorous application of existing procedures

— Safety requirements and procedures associated with MAR

— Assessment of the impact had SMART acquisition been implemented at the time

— Co-ordination across Customer Departments for complex programmes

Significant progress has been made by the Defence Procurement Agency in implementing the identified actions throughout the Acquisition organisations and robust mechanisms have been put in place to check the timely and efficient application of improvement initiatives. Senior personnel are involved in championing the improvements and ensuring that lessons learned are applied across a broad range of acquisition programmes. A further review of progress is planned for mid 2005.

Chinook Mk3 Way Ahead

The Department has completed a Combined Operational Effectiveness and Investment Appraisal (COEIA) to identify the best value for money solution for what to do with the Chinook Mk3 platform.

This has identified the 'fix to field' solution as the probable value for money solution for the Chinook Mk3, and it identified a technical solution, which has been ratified by 3 independent technical advisors as being realistic. But before committing to this and against the background of this project, further work is being carried out.

A "Preparation Phase" was accordingly approved in September to test, working closely with industry, the assumptions that underpinned the COEIA, to validate the proposed technical solution for "fix to field", and to identify and mitigate technical and commercial risks. We expect to spend around £13 million on this work. In the meantime, affordability is being addressed through the Department's normal planning processes. On current plans we expect to decide the way ahead next summer.

Until a decision is made, the value of the Chinook Mk3 aircraft has been written down as a constructive loss of £205 million under prudent accounting practice in the Departmental Annual Report and Accounts. The impairment arose as it was established that, although the terms of the original contract had been met, the helicopters did not meet the operational requirement and could not acquire Military Aircraft Release. The value has been written down to reflect the value of usable spares only.

Future Rotorcraft Capability (FRC)

The lessons of the Chinook Mk3 will be absorbed into what is now known as the FRC programme, for which the IAB endorsed the first phase of work in Sep 04. The supplement to the 2003 Defence White Paper, "*Delivering Security in a Changing World*", explained that we are in the process of reviewing our future helicopter capability requirements and our forward plans, focusing, in line with our wider policy, on the effects required rather than on types and numbers of platforms.

Over the next decade, a significant part of our existing fleet will retire from service. We therefore plan to invest substantially in new helicopters in a relatively condensed timeframe to replace and enhance the capability they provided. We will invest around £3bn over the next 10 years in this area. In the short to medium-term, we will also be putting additional investment into our existing fleet. This gives us an opportunity for holistic consideration of the future programme that we believe will deliver a more coherent and more cost-effective future helicopter programme. FRC absorbs, and will test the capability requirements which underpin them, a number of programmes which were previously self-sustaining:

— Support, Amphibious & Battlefield Rotorcraft (SABR)

— Search and Rescue (SAR) (managed as part of the SABR programme)

— Battlefield Light Utility Helicopter (BLUH)

— Surface Combatant Maritime Rotorcraft (SCMR)

— Merlin Mk1 Capability Sustainment Plus (CSP) programme

— Chinook Mk3 resolution

— Health and Usage Monitoring System (HUMS)—Lynx and Chinook

No decisions have yet been taken on the shape of our future programme, or the individual components within it. A number of considerations need to be taken into account. We hope to have a clearer idea of the way forward towards the summer of next year.

FRC is designed to provide a successful structure for taking forward the procurement of helicopters for the foreseeable future. FRC will be guided by smart acquisition principles, establishing specific Key User Requirements (KURs) for equipment items from the outset, with appropriate input from all stakeholders; this should prevent equipment being procured to an incorrect specification. Robust contractual arrangements will in due course be put in place to minimise delays in delivery.

The Department is working closely with industry, in particular AgustaWestland, Lockheed Martin and Boeing, both for the provision of accurate data to inform our decisions, and to ensure that we are fully aware of the consequences for industry of any decisions we might take. In the longer term, we believe that FRC will offer significant opportunities to industry.

NAO Key Recommendation 5: Secure Adequate Platform Capability Across the Spectrum of Present and Potential Operations, and Anticipated Operating Environments

Battlefield helicopters are in constant demand for global deployment. It follows that there is a continuing requirement for the capability to operate across a wide range of environments. Through the FRC programme, Key User Requirements (KURs) will be established for all future helicopter platforms and their associated equipment. Battlefield Helicopter KURs will be established from the outset of the procurement process, with appropriate input from all stakeholders, and will include the capability to operate across the spectrum of present and potential operations in all anticipated operating environments.

Given the Department's finite resources, we are unable to equip all our existing platforms and systems for operations across the full spectrum of conflict in all environments. The majority of the UK Battlefield Helicopter fleet was originally procured under a concept of operations focussed on NW Europe. The Strategic Defence Review, and subsequent reviews, have shifted our focus onto a more agile force deployable in a range of environments across the globe. As a result, many of our aircraft require modification to enable them to do so safely and effectively. Fleet-wide modification for legacy platforms is deemed both unnecessary and prohibitively expensive, in particular where we intend to procure new capability in the near to medium-term. Consequently, we have to balance our investments carefully. For equipment that is only of use in certain operational scenarios or for specific conditions that may arise rapidly, one approach is to employ the Urgent Operational Requirement (UOR) Process.

The Department uses the UOR process to fine-tune military capability through the rapid purchase of new or additional equipment, or essential modifications to existing equipment, to support current or imminent operations in specific environments. In order to qualify as a UOR, it must be possible to field the equipment in time to make a contribution to the operation. Consequently, much of the equipment is theatre specific, "off the shelf", and designed for immediate and short-term usage.

The Department reviews the status and ongoing utility of all UORs as appropriate, normally at the end of an operation. Where there is an extant requirement, the capability is judged against current and emerging priorities and, subject to the affordability of its support costs, is taken into the programme on its relative merits. Clearly, our resources are finite and not all UORs are deemed to be of sufficient priority and lasting utility. For operations that develop into a more enduring commitment, the process of review and assessment is conducted on an annual basis, taking into account the changing roles of the forces deployed.

In sum, we seek to retain UOR equipment that has enduring utility, enhances our capability and can be properly supported and resourced throughout its life. A key aim of FRC will be the early incorporation of the extant UORs on the Chinook Mk2/2a into the baseline standard of the helicopter.

While in the future we aspire to have a helicopter fleet that is capable of deployment in all environments, inevitably, as technology moves on, and new military scenarios arise, there will be a requirement to upgrade equipment to ensure that our forces are supported by the foremost technology available. The UOR process will therefore have an enduring utility.

Supplementary memorandum submitted by the Ministry of Defence

Question 62 (Mrs Browning): Can I ask you how things are looking now in terms of [Apache] training? How do you currently see the situation with the availability of people to train as pilots and also the training schedule itself?

The Apache aircrew training system is efficient and proving very effective. Aircrew Conversion to Type (CTT) training takes place at the School of Army Aviation, Middle Wallop. This takes approximately six months and includes a substantial package of simulation and live flying. Having completed two development courses, which also "trained the trainers", the first front line squadron commenced CTT on 1 September 2003 achieving the target set in March 2001. The second squadron has completed its CTT and is now engaged with the rest of the Regiment (9 Regt AAC) on Conversion to Role (CTR) training. The CTR training lasts 26 weeks and works to a programme developed by the Joint Helicopter Command. There are no problems with the availability of people to train as pilots.

Questions 69–71 (Mrs Browning): . . . it was suggested that we would save £23 million by switching [Apache training] to the PFI contract. How much have we actually saved?

The £23 million of savings are expressed in Net Present Value (NPV) terms and translates to £45 million in real terms. The figures represent the total savings across the 20 years duration of the contract, ie approx £2.25 million/year and have not yet been totally accrued. The Full Mission simulator for Middle Wallop was delayed by 17 months from August 2000 to December 2001 (due to technical difficulties in its development) and this reduced the total achievable savings by approximately £3 million to about £42 million. The annual savings are, therefore, reduced to approx £2.1 million/year, which means that over the four years of the contract so far that about £8.4 million has been saved.

Question 80 (Mr Steinberg): How late were the [Apache] helicopters coming into service?

The Department's original In-Service Date (ISD) (defined as the delivery of the first nine aircraft) was December 1999. This ISD was set when the procurement was approved in 1995, but was subsequently changed to December 2000 and was achieved in January 2001. The delay was primarily because of technical difficulties associated with replacing the original engine with the RTM 322 (Rolls Royce Turbo Meca).

The Initial Operating Capability (IOC) was originally scheduled for September 2002 this was then delayed to August 2004 and was achieved on 28 September 2004, effectively two years late. The delays were due to technical problems with the Full Mission Simulator (FMS) which led to late delivery of pilot training, and the Conversion to Type training being increased from 15 weeks to 26 weeks by the Director of Army Aviation.

Questions 101–103 (Mr Bacon): When will all 67 [Apaches] be out of the shed and operating? [Is] three to four years of storage still accurate? Can you give us a note on the up-to-date position and how it is going to progress?

All 48 front line Apache Helicopters are due to be in use from 2007, which is when the final 8 aircraft are scheduled be used by 4 Regt Army Air Corps (AAC) for Conversion to Role (CTR) Training. Two aircraft per month will be released to 3 Regt AAC in February, March, July and August, thereby completing the first squadron, and the second squadron will be completed at a rate of two per month from September to December 2005. A further 16 aircraft will be released in 2006 to 4 Regt AAC, also at a rate of two per month, from May 2006 and completing in December 2006.

The number of aircraft in storage at RAF Shawbury at any one time varies due to System Enhancement Programme/Retrofit After Delivery and servicing programmes. As at 14 October 2004, 20 aircraft were at RAF Shawbury, the remainder being with the Field Army (Dishforth), the School of Army Aviation (Middle Wallop) or undergoing a retrofit programme at Yeovil. Nine aircraft will remain in long term storage as attrition reserve/sustainment aircraft once fielding is complete.

Questions 192–197 (Mr Williams): Why do you have two [methodologies for calculating how much capability is required] and how do you know which one is right?

There is a range of tools and techniques which can be used to determine the force structure and force level most appropriate to any given scenario. These range from detailed mathematical modelling through to military judgement. It is important to note, however, that every campaign is different and that, in each case, there are a range of options available to the planners. For example, military capability can be utilised in different ways to achieve the same effect, and factors such as precision, tempo and surprise can act as force multipliers. Judgements about force levels are influenced strongly by the perceived level of threat and the levels of equipment and personnel likely to be available. Furthermore, in the area of

coalition operations, there is a degree of flexibility in what force elements each nation contributes. In essence, there are a range of methodologies which the Department can use to measure equipment capability but the choice depends on the purpose for which it is required and the outputs will vary depending upon the underlying assumptions made.

Operational Analysis Based Methodology

Operational Analysis (OA) based methodologies inform decisions on future equipment capability. The OA is conducted on a number of scenarios which provide illustrative situations in which British forces might be called upon to operate, and assesses the ability of competing platforms to provide a specific capability. The modelling is optimised to discriminate between different weapons or platforms that can provide a similar capability. It can also give a broad indication of the upper ceiling of numbers required to guarantee mission success in specific operations.

The first stage in the modelling is the development of a campaign plan, which is undertaken by military experts. This takes account of the objectives of opposing forces, the potential contribution to the campaign of the UK's likely coalition partners and real world geographical and environmental features. The campaign plan is then broken down into discrete tasks, and the level of a specific capability (such as rotary lift, anti-armour or amphibious assault) required to meet each task is determined. By deriving a model of the required operational effectiveness, detailed modelling can then discriminate between the ability of competing systems to meet the capability requirement. In this case, the modelling was designed primarily to compare the contributions that could be made by different types of support helicopter.

To inform decisions about required numbers of force elements, the OA based methodology analyses a number of different scenarios covering a range of operations and the results are mapped against our concurrency assumptions.

The results of this OA based work were used to project the 38% shortfall identified against the projected future capability for the concurrency assumption of two Medium Scale operations (one of which is enduring) plus an enduring Small Scale operation.

Current Force Structure Planning

The other methodology, described in the supplementary memorandum,[1] is optimised for shorter term planning purposes and reflects the capability of the currently planned force structure (ie the expected force structure in 2008–10). It is used to inform shorter term planning decisions on the demands of force generation to support readiness profiles to meet standing commitments and contingent operations.

As described in "*Delivering Security in a Changing World*" the planning methodology assigns force elements to the full set of Military Tasks using our policy assumptions about the likely future range of operations. It thus produces force packages of Force Elements for the full set of deployed operations and standing commitments. In the case of the capability delivered by Support Helicopters this methodology takes account of the availability of other means of delivering in theatre transport such as road vehicles from the force package assigned to the operation. It also reflects our assumptions, based on recent historical evidence that there is scope for achieving the desired effects in enduring operations with lower force packages over time. Of course as the size of the deployed force reduces the number of support capabilities such as helicopters can reduce. Compared to the OA based methodology this methodology does not assign helicopters to meet every possible task but provides for the core tasks required to provide operational success.

The results of this work were the 20% shortfall described in the evidence session.

Question 221 (Chairman): [With regards to] the scenario of pilots having to familiarise or train at the last minute [because of Urgent Operational Requirements], I would like you to do a further note on that because we are clearly worried that pilots' lives are being put at risk. Would you do a note for us on that, please, and a considered response?

Pilots' lives were not being put at risk. All military aircrew are taught the necessary tactics to evade and/or counter all threats, and the addition of a specific Urgent Operational Requirement (UOR) can reduce the need to rely upon such tactics. Whilst it is obviously desirable for aircrew to undertake as much training as possible following a modification, the notion that aircrew are endangered by not being able to train with the equipment does not make allowance for the high level of competence that those aircrew display in their routine flying. Aircrew are able to learn much of the particular modification's capability and utility through reading technical manuals, and their existing competence enables them to adapt very rapidly to new capability.

[1] Ev 22-27

As the NAO Report states, the Department's current policy is only to deploy on operations aircraft which are suitably protected by Defensive Aid Suites. This reflects the paramount importance we place upon safety of our people, backed up by experience gained on recent operations and exercises, including SAIF SAREEA II.

Taking account of this policy, a Defensive Aid Suite modification programme for Lynx was being pursued when Op TELIC arose. Given the emerging operational requirement, UOR action was taken to accelerate the existing programme for Lynx Mark 7 and Mark 9. While time only allowed for 24 suitably protected Lynx helicopters to be deployed, which was not the ideal number of aircraft, the capability was still available to make the operation a success.

The NAO Report notes that Royal Navy and RAF pilots already had individual and collective protection against NBC. To bring Army pilots up to the same level of protection for this operation, they were equipped with the same current aircrew respirator solution (AR5) via UOR action. This equipment affords the best protection currently available and is comparable to the US equipment.

Limited training was available with the new equipment, but sufficient for commanders in theatre to be satisfied with the level of protection and training undertaken and to declare their forces ready for action.

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