



House of Commons  
Committee of Public Accounts

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# Ministry of Defence: Building an air manoeuvre capability: the introduction of the Apache Helicopter

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Forty-sixth Report of  
Session 2002–03

*Report, together with formal minutes,  
oral and written evidence*

*Ordered by The House of Commons  
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## The Committee of Public Accounts

The Committee of Public Accounts is appointed by the House of Commons to examine “the accounts showing the appropriation of the sums granted by Parliament to meet the public expenditure, and of such other accounts laid before Parliament as the committee may think fit” (Standing Order No 148).

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The following were also members of the Committee during the period of this inquiry.

Geraint Davies MP (*Labour, Croydon Central*)  
Mr George Howarth MP (*Labour, Knowsley North and Sefton East*)

### Powers

Powers of the Committee of Public Accounts are set out in House of Commons Standing Orders, principally in SO No 148. These are available on the Internet via [www.parliament.uk](http://www.parliament.uk).

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The Reports and evidence of the Committee are published by The Stationery Office by Order of the House. All publications of the Committee (including press notices) are on the Internet at [http://www.parliament.uk/parliamentary\\_committees/committee\\_of\\_public\\_accounts.cfm](http://www.parliament.uk/parliamentary_committees/committee_of_public_accounts.cfm). A list of Reports of the Committee in the present Session is at the back of this volume.

### Committee staff

The current staff of the Committee is Nick Wright (Clerk), Christine Randall (Committee Assistant), Leslie Young (Committee Assistant), and Ronnie Jefferson (Secretary).

### 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 [pubacom@parliament.uk](mailto:pubacom@parliament.uk).

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## Summary

The Ministry of Defence (the Department) is procuring 67 Apache Attack Helicopters and associated training services from Westland Helicopters Limited (Westland) at an expected cost of £4 billion. The helicopter is critical to achieving the Department's planned Air Manoeuvre capability. Its firepower, manoeuvrability, survivability and surveillance capabilities are illustrated in **Figure 1** and are significantly greater than the Lynx helicopter it will replace.

The introduction of the Apache into full military service has been delayed by problems with the separate weapons and training contracts, despite reasonable progress being made with delivery of the basic helicopter. As a result 40 of the helicopters, worth over £1.2 billion, will have to be stored at considerable expense, and the Armed Forces will not benefit from the enhanced operational capability that the helicopter will provide. If the Department had met its original timetable the Apache would now be in service. Under current plans, Full Operating Capability will not be delivered until August 2006. Any further delays in introducing the Apache will lead to a gap in the Army's anti-tank capability as the existing Lynx helicopters fitted with Tube-launched Optically-tracked Wire-guided (TOW) missiles cannot be kept in service beyond December 2005.

On the basis of a Report from the Comptroller and Auditor General<sup>1</sup> we took evidence from the Department on 12 March. We also made an interesting and helpful visit to the Directorate of Army Aviation at Middle Wallop to see the Apache and the training facilities provided by Aviation Training International Limited (ATIL) on 10 March. We examined whether the Department had handled the introduction of the Apache well to date; what risks remained to the timely introduction of the Apache capability; and whether the Department had identified specific lessons from the introduction of this new capability.

We draw the following main conclusions from our examination:

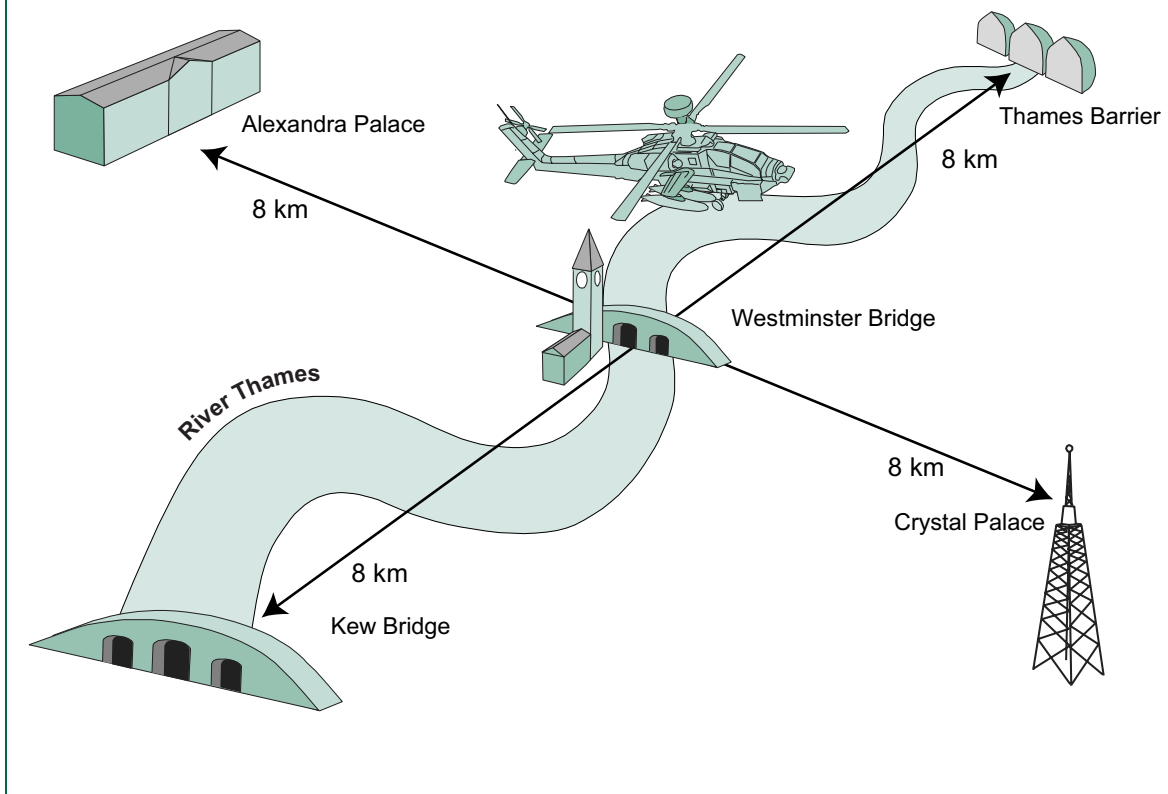
- Errors in introducing the Apache have resulted in additional costs and delays in delivering the operational capability to the Armed Forces. Separating the procurement of training and weapons from the prime contract has led the Department to assume additional risks and costs. The Department's approach to acquiring the training has led to additional costs of over £24 million, and meant that the introduction of the new capability has been delayed by two years. The arrangements for providing spares to support the helicopter for its first 30 months of operation, whilst sensible in concept, were also flawed because they were linked to a forecast schedule of flying rather than actual rates of flying.

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<sup>1</sup> C&AG's Report, *Ministry of Defence: Building an air manoeuvre capability: the introduction of the Apache Helicopter* (HC 1246, Session 2001–02)

- Risks remain to the full introduction of the Apache capability. The capacity for the Apache to have secure voice and data communications with other aircraft and with United Kingdom ground troops will be restricted. As a result there remains a risk that the Armed Forces will not be able to fully utilise the Apache capability. As our recent Report on Combat Identification<sup>2</sup> and recent experience in the Gulf has highlighted, such shortcomings also raise the risk of friendly fire incidents.
- The Apache project provides important lessons on how to manage a major new capability. These include the value of a single focus for the programme management of the delivery of a complex capability; the need to set more realistic timescales; and the importance of putting in place better arrangements for the supply of data on equipments developed in the United States.

Figure 1: The Apache's Target Range



# 1 Errors in introducing the Apache

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1. The appointment of a prime contractor responsible for delivering all elements of an equipment capability is a principle of the Department's acquisition policy. The Department appointed Westland as prime contractor to deliver the Apache helicopters, logistic support and spares. However, the original procurement strategy was changed, and separate contracts were placed for the delivery of training services and weapons.<sup>3</sup>

2. The training services contract took two years to negotiate and was let as a PFI contract with Aviation Training International Limited (ATIL), a consortium comprising Boeing and Westland. The Department accepted that the two years it took to negotiate the PFI training contract was too long. It had been a mistake to assume that ATIL could bring into service such a complex system as the main training simulator to the contracted timetable and a longer period of development should have been planned.<sup>4</sup>

3. The Department stated that it expected to save £22.6 million under the PFI training contract.<sup>5</sup> This figure is over-optimistic and includes a £17 million saving on pilot training courses not run, which is actually deferred expenditure, and a £30 million saving from separating the munitions contract from the prime contract, which is not directly related to the training contract. Excluding these figures, the Department incurred additional costs of £24.4 million without taking into account the depreciation costs of holding the helicopters in storage.<sup>6</sup>

4. In separating the training services and weapons from the prime contract the Department took on additional risks that would otherwise have resided with the prime contractor. These included the risks of integrating the weapons on to the helicopter, and aligning delivery of the helicopters with delivery of the training services. Some of these risks materialised, with software difficulties resulting in a 17-month delay in introducing the main training simulator. The duration of pilot training was also under estimated by some 40%.<sup>7</sup> As a result of these delays the Department will have to store 40 helicopters for several years at a cost of £6 million, and the Armed Forces will not start using the helicopter until two years later than planned.<sup>8</sup>

5. The Department also committed itself to pay for maintenance training from a specified date regardless of whether slippage elsewhere on the programme meant the training was not necessary. The Department's decision to separate training services from the prime contract meant that it is responsible for sourcing certain technical information about the helicopter from Westland and providing it to ATIL. Westland was late providing this information to the Department which, under the training contract was still required to pay ATIL £34 million for training courses it could not run because the technical information was not available. Following legal advice, the Department is claiming from Westland only

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<sup>3</sup> C&AG's Report, paras 1.2–1.3

<sup>4</sup> Qq 153, 157

<sup>5</sup> Q 33; Ev 20, 22

<sup>6</sup> Q 105

<sup>7</sup> Qq 2, 8

<sup>8</sup> C&AG's Report, para 2.25; Qq 101–102

£8 million of the £34 million paid to ATIL. The £8 million represents the value of maintenance training that could have been taken up by the Department if the relevant courseware had been delivered by Westland. The Department did not take up the other £26 million of maintenance training because the delays in pilot training meant that the helicopters were not being flown as regularly as expected and did not need as much maintenance.<sup>9</sup>

6. The Department placed a fixed-price spares support contract with Westland to cover the guaranteed supply of Apache spares by the company within 48 hours of a request. The contract covered the period April 2000 to October 2002—the first 30 months after the helicopter was expected to enter service. In agreeing the contract, the Department's intention was to pass the risk of initial spares provisioning to the contractor and to learn lessons on usage to inform a subsequent longer-term spares arrangement.

7. The contractual arrangements did not maximise value for money, because the training problems in particular meant that flying rates over this period were about a third of those anticipated in the contract.<sup>10</sup> **Figure 2** summarises the outcome of the spares contract. In addition to the costs identified the Department will also have to bear the additional resource cost of holding the surplus spares. Nor is it clear whether the spares now held are items which the Department will need and why it now holds this high level of stock, given that Westland should have supplied any spare within 48 hours.

**Figure 2: Outcome of the initial spares support contract**

	<b>£m</b>
Spares used	10
Spares held by the Department	80
Spares for which ownership is to be agreed with Westland Helicopters Ltd	15
Service charge	5
Cost of new warehouse	2
Risk premium for Westland Helicopters Ltd.	8
Contract value (Fixed price)	<b>120</b>

*Source: Data supplied by the Ministry of Defence in Qq 39–45*

<sup>9</sup> Qq 114, 119

<sup>10</sup> C&AG's Report, para 2.36

## 2 Risks to the delivery of the Apache capability

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8. **Figure 3** summarises a number of risks remain to the timely delivery of the Apache capability. Despite these risks, the Department is confident that it will achieve an Initial Operating Capability for the Apache in August 2004 and has recently decided to bring forward delivery of the Full Operating Capability from February 2007 to August 2006.<sup>11</sup>

**Figure 3: Risks to the delivery of the Apache capability**

<ul style="list-style-type: none"> <li>• achievement of independent certification that the helicopter and its weapons are safe to use, including operation in specified environmental conditions;</li> </ul>
<ul style="list-style-type: none"> <li>• resolving remaining issues on operation of weapons, including Hellfire missiles and CRV7 rockets;</li> </ul>
<ul style="list-style-type: none"> <li>• achievement of required performance for Longbow radar;</li> </ul>
<ul style="list-style-type: none"> <li>• delivery of upgraded Defensive Aids Suite capability;</li> </ul>
<ul style="list-style-type: none"> <li>• achievement of secure data exchange between Apache and ground troops;</li> </ul>
<ul style="list-style-type: none"> <li>• letting the remaining spares follow-on contracts.</li> </ul>

Source: C&AG's Report, paras 1.8, 1.11–1.12, 1.17–1.25

9. Before the Apache can be used in operations it must obtain a Military Aircraft Release, which provides independent certification that the helicopter and its weapons are safe to use. The programme which provides this certification has been extended a number of times. Full clearance of the upgraded helicopter and its weapons was originally due to be completed in December 2000, but is now not expected until June 2004. The Department assured us that the delay would not prejudice delivery of the Initial Operating Capability in August 2004, and conversion of the first regiment to the Apache in February 2005, as now planned.<sup>12</sup>

10. When the Apache is first introduced into service, it will not have the capacity for secure voice and data communications with all United Kingdom and allied aircraft or United Kingdom ground troops. The Department's older "legacy" helicopters, such as the Gazelle, lack the necessary equipment to communicate with the Apache, although the Department's newer helicopters and aircraft, including Chinook, Merlin and Tornado, as well as the Apaches operated by the United States, will have secure voice communications. The capacity for the Apache to have secure data exchange with ground troops will only be delivered when 16 Air Assault Brigade is equipped with the Bowman communications system in 2005–06.<sup>13</sup>

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<sup>11</sup> Qq 3, 82

<sup>12</sup> Ev 1, para 1

<sup>13</sup> C&AG's Report, paras 1.24–1.25; Q 24

11. There have been delays in letting follow-on contracts for spares which represent a further risk to the delivery of the Apache capability. Although the initial contract for supplying spares came to an end in October 2002, the Department and Westland Helicopters Ltd. have not yet agreed prices for all the required spares including those for transmission equipment or the helicopter's Target Acquisition and Designation Sight or Pilot Night Vision System. The Department assured the Committee that it would be letting these contracts soon. However, it is disappointing that the Department may still be unable to obtain some spares with long manufacturing lead-times, and, in the last resort, may have to source them from helicopters in store.<sup>14</sup>

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<sup>14</sup> Qq 52–57, 69

## 3 Lessons learned

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12. In planning the delivery of the Apache capability the Department and Westland underestimated the time it would take to complete key processes and activities. The time needed to develop the complex training simulator required for pilot training was underestimated, and it was delivered 17 months late. The Department considers it could not have predicted the software development problems that delayed introduction of the simulator.<sup>15</sup>

13. The Department also accepted Westland's estimate that it would take 15 weeks to train a British Apache pilot, the same time as an American Apache pilot. This figure was later increased to 26 weeks when the Department received feedback from pilots who underwent training in the United States. It was only at this point that the Department realised that the initial estimate did not allow for:

- the uncertainties of the British weather;
- the much more restricted airspace that exists in the United Kingdom compared with America;
- pilot sickness;
- any failures on the course; or
- that most American pilots had already flown earlier variants of the Apache.

Recognising the 17-month delay which the extended course duration will cause in training the required number of Apache pilots, the Department is working to reduce the training to 20 weeks. If successful, this reduction in training time that will allow the Department to bring forward introduction of the Full Operating Capability by six months to August 2006.<sup>16</sup>

14. One of the problems progressing the Military Aircraft Release programme has been the continuing difficulty in obtaining relevant trials data from the United States. The situation has improved following what the Department accepts was the belated agreement of a Memorandum of Understanding for the Apache in 2001.<sup>17</sup> The underlying problem of obtaining data from the United States is not new and is one which our predecessors have commented on before.<sup>18</sup> The Department is currently negotiating with the United States to make the process of sharing information easier.

15. In March 2001 the Department established the Air Manoeuvre Policy Group with responsibility for co-ordinating all aspects of the delivery of the Apache capability. Management of the Apache programme has subsequently improved, and there is now a clear corporate oversight of the programme. Nevertheless, the day-to-day programme

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<sup>15</sup> Qq 2, 132

<sup>16</sup> C&AG's Report, paras 2.27, 2.29; Qq 82, 84

<sup>17</sup> Qq 4, 79

<sup>18</sup> 44<sup>th</sup> Report from the Committee of Public Accounts, *Ministry of Defence: Major Projects Report 1994* (HC 487, Session 1994–95)

management remains split between two individuals in the Department. This divide reflects the organisational structure of the Department, whereby the Equipment Capability Customer is responsible for developing and managing a balanced and affordable equipment programme to meet the current and future needs of the Armed Forces. The second customer is responsible for converting the capability devised by the Equipment Capability Customer into an operational military capability, and managing the equipment when in-service.<sup>19</sup>

16. The Department is confident about the successful future progress of the Apache programme because it now has better oversight of all aspects of the programme and better control of the associated risks, notably through the development of a joint risk register with Industry. It is satisfied that, although risks to the capability remain, notably in respect of the upgraded Defensive Aids Suite, it can manage these risks to meet the timetable for delivering the new capability in 2004.<sup>20</sup>

17. Although some specific lessons have been applied to other programmes, the Department has not yet undertaken a formal review of the lessons to be learned from the Apache procurement. It is planning for such a post-project evaluation review to be undertaken by the Defence Procurement Agency.<sup>21</sup>

18. In procuring future helicopter systems the Department will follow the principles of Smart Acquisition and will apply specific lessons from the Apache procurement. We asked the Department to identify what lessons they had identified for the procurement of future helicopter systems, and these are shown in **Figure 4**.<sup>22</sup>

**Figure 4: Lessons for the Procurement of Future Helicopter Systems**

<ul style="list-style-type: none"> <li>the benefits of prime contractorship for delivery to time and cost;</li> </ul>
<ul style="list-style-type: none"> <li>the need to carefully examine decisions to split out elements from the prime contractor's responsibility;</li> </ul>
<ul style="list-style-type: none"> <li>the timescales needed to negotiate PFI deals;</li> </ul>
<ul style="list-style-type: none"> <li>the need to avoid taking on risk which is better managed by industry (for example, the delivery of courseware);</li> </ul>
<ul style="list-style-type: none"> <li>the complexity and risk involved in simulator technology;</li> </ul>
<ul style="list-style-type: none"> <li>the benefits of competitive procurement, including opportunities for manufacturing under license in the UK;</li> </ul>
<ul style="list-style-type: none"> <li>the need to achieve early agreement of a project-specific Memorandum of Understanding and make progress on the amendment of the US/UK General Scrutiny Agreement and negotiate an International Trafficking in Arms Regulations waiver for the UK to overcome data release issues;</li> </ul>
<ul style="list-style-type: none"> <li>the need to examine long term, innovative support arrangements which provide contracted capability or availability outputs, or increased contractor logistic support.</li> </ul>

Source: Supplementary memorandum submitted by the Ministry of Defence (Ev 21)

<sup>19</sup> C&AG's Report, paras 3.3, 3.8–3.10

<sup>20</sup> Qq 2–3

<sup>21</sup> Q 158

<sup>22</sup> Q 184; Ev 21

19. The United Kingdom's Apaches have many similarities with the Apache Longbow helicopters operated by the United States in, among other places, Afghanistan and the Gulf. The Department has recognised that it can learn from these operational experiences to inform the approach it takes to deploying United Kingdom Apaches.<sup>23</sup>

20. In contrast to the Royal Air Force which does not train Non-Commissioned Officers as pilots, 60% of Army Air Corps pilots are Non-Commissioned Officers. The Army Air Corps pilots are rated highly by the Department. In particular, the Department emphasised the ability of all Army pilots to cope successfully with integrated and complex systems such as the Apache, and their high retention rates.<sup>24</sup>

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<sup>23</sup> Q 35

<sup>24</sup> Qq 82, 110–111

## Conclusions and recommendations

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1. The Department separated the procurement of training and weapons from the main Apache prime contract, and both are now out of step with that contract. The Department should adhere to its policy of appointing a prime contractor responsible for all aspects of an acquisition programme, unless it is able to demonstrate that there are clear and justifiable reasons which outweigh the potential risks.
2. The main cause of delay to the Apache programme has been difficulties with the training programme, notably a 17-month delay in introducing the main simulator to be used for training pilots. The time taken to train pilots to fly the aircraft was also under-estimated by 40%. The Department should make the realism of contractors programming assumptions an important part of the assessment of tenders and pre-contract award negotiations.
3. The arrangements for providing spares to support the Apache were linked to the achievement of the originally planned in-service date. This approach was too inflexible and meant that the Department still paid Westland £120 million although the helicopter flew one-third as much as anticipated. The Department should agree spares contracts which cover actual activity levels and, building on the recommendations in our recent report on its progress in reducing stocks,<sup>25</sup> could cost-effectively make more use of industry to supply spares directly.
4. There have been problems in obtaining data from the United States on its Apache programme. A Memorandum of Understanding with the United States, which helped to reduce the difficulties, was not agreed until four years after the contract for the aircraft was signed. Our predecessors have commented in a past Report on difficulties in obtaining data from the United States.<sup>26</sup> For programmes involving technology sourced from the United States, the Department should negotiate specific Memorandums of Understanding on data issues in parallel with the negotiation of the main acquisition contract.
5. The Air Manoeuvre Policy Group was belatedly established in 2001 to co-ordinate all aspects of delivering the Apache capability. Management of the Apache programme has subsequently improved, but there is still no one person responsible for the day-to-day project management of all the elements involved. The Department should provide a clearer single focus for the programme management of new capability.
6. In the Department's opinion the Non-Commissioned Officers who make up 60% of pilots with the Army Air Corps are as capable as their commissioned equivalents and also pose fewer problems of retention. The Department should examine whether other parts of the Armed Forces could use NCO pilots.

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<sup>25</sup> 13<sup>th</sup> Report from the Committee of Public Accounts, *Ministry of Defence: Progress in Reducing Stocks* (HC 566, Session 2002–03)

<sup>26</sup> 44<sup>th</sup> Report from the Committee of Public Accounts, *Ministry of Defence: Major Projects Report 1994* (HC 487, Session 1994–95)

# Formal minutes

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**Monday 27 October 2003**

Members present:

Mr Edward Leigh, in the Chair

Mr Richard Bacon  
Jon Cruddas  
Mr Frank Field

Mr David Rendel  
Mr Gerry Steinberg  
Mr Alan Williams

The Committee deliberated.

Draft Report (Ministry of Defence: Building an air manoeuvre capability: the introduction of the Apache helicopter), proposed by the Chairman, brought up and read.

*Ordered*, That the Chairman's draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 20 read and agreed to.

Conclusions and recommendations read and agreed to.

Summary read and agreed to.

*Resolved*, That the Report be the Forty-sixth 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 Wednesday 29 October at 3.30 pm

## Witnesses

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**Wednesday 12 March 2003**

*Page*

**Sir Kevin Tebbit KCB CMG, Major General Andrew Figgures CBE**, Ministry of Defence, and **Mr Ian Fauset CB**, Defence Procurement Agency

Ev 3

## List of written evidence

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Second Report	Dealing with pollution from ships	HC 119 ( <i>Cm 5770</i> )
Third Report	Tobacco Smuggling	HC 143 ( <i>Cm 5770</i> )
Fourth Report	Private Finance Initiative: redevelopment of MOD Main Building	HC 298 ( <i>Cm 5789</i> )
Fifth Report	The 2001 outbreak of Foot and Mouth Disease	HC 487 ( <i>Cm 5801</i> )
Sixth Report	Ministry of Defence: Exercise Saif Sareea II	HC 502 ( <i>Cm 5801</i> )
Seventh Report	Excess Votes 2001–02	HC 503 ( <i>N/A</i> )
Eighth Report	Excess Votes (Northern Ireland) 2001–02	HC 504 ( <i>N/A</i> )
Ninth Report	The Office for National Statistics: outsourcing the 2001 Census	HC 543 ( <i>Cm 5801</i> )
Tenth Report	Individual Learning Accounts	HC 544 ( <i>Cm 5802</i> )
Eleventh Report	Facing the challenge: NHS emergency planning in England	HC 545 ( <i>Cm 5802</i> )
Twelfth Report	Tackling pensioner poverty: encouraging take-up of entitlements	HC 565 ( <i>Cm 5802</i> )
Thirteenth Report	Ministry of Defence: progress in reducing stocks	HC 566 ( <i>Cm 5849</i> )
Fourteenth Report	Royal Mint Trading Fund 2001–02 Accounts	HC 588 ( <i>Cm 5802</i> )
Fifteenth Report	Opra: tackling the risks to pension scheme members	HC 589 ( <i>Cm 5802</i> )
Sixteenth Report	Improving public services through innovation: the Invest to Save Budget	HC 170 ( <i>Cm 5823</i> )
Seventeenth Report	Helping victims and witnesses: the work of Victim Support	HC 635 ( <i>Cm 5823</i> )
Eighteenth Report	Reaping the rewards of agricultural research	HC 414 ( <i>Cm 5823</i> )
Nineteenth Report	The PFI contract for the redevelopment of West Middlesex University Hospital	HC 155 ( <i>Cm 5961</i> )
Twentieth Report	Better public services through call centres	HC 373 ( <i>Cm 5961</i> )
Twenty-first Report	The operations of HM Customs and Excise in 2001–02	HC 398 ( <i>Cm 5961</i> )
Twenty-second Report	PFI refinancing update	HC 203 ( <i>Cm 5984</i> )
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Twenty-seventh Report	The management of substitution cover for teachers	HC 473
Twenty-eighth Report	Delivering better value for money from the Private Finance Initiative	HC 764 ( <i>Cm 5984</i> )

Twenty-ninth Report	Inland Revenue: Tax Credits and tax debt management	HC 332 ( <i>Cm 5962</i> )
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Thirty-fifth Report	PFI Construction Performance	HC 567 ( <i>Cm 5984</i> )
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Thirty-eighth Report	Department of Trade and Industry: Regulation of weights and measures	HC 581 ( <i>Cm 5963</i> )
Thirty-ninth Report	A safer place to work: Protecting NHS hospital and ambulance staff from violence and aggression	HC 641 ( <i>Cm 5963</i> )
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Forty-third Report	Fisheries enforcement in England	HC 752
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The reference number of the Treasury Minute to each Report is printed in brackets after the HC printing number

# MINUTES OF EVIDENCE

TAKEN BEFORE THE COMMITTEE OF PUBLIC ACCOUNTS

WEDNESDAY 12 MARCH 2003

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Members present:

Mr Edward Leigh, Chairman

Mr Ian Davidson  
Mr Brian Jenkins  
Mr George Osborne  
Mr David Rendel

Mr Siôn Simon  
Mr Gerry Steinberg  
Jon Trickett  
Mr Alan Williams

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SIR JOHN BOURN KCB, Comptroller and Auditor General, further examined.

MR BRIAN GLICKSMAN, Treasury Officer of Accounts, HM Treasury, further examined.

## REPORT BY THE COMPTROLLER AND AUDITOR GENERAL:

### **Building an air manoeuvre capability: The introduction of the Apache Helicopter (HC 1246)**

#### **Memorandum submitted by the Ministry of Defence**

The paragraph numbers in the memorandum refer to the Comptroller and Auditor General's Report (HC 1246), which was published on 31 October 2002.

#### PARAGRAPH 1.11

1. The report states:

“Under this programme, the Initial Military Aircraft Release, required to begin flying the aircraft for testing purposes, was achieved seven months late in December 2000. The Department has subsequently revised its plans and the latest MAR, issued in December 2001, has been extended to a six-stage programme (Figure 8). Clearance of the aircraft and its upgraded systems (MAR 6) is now scheduled for August 2003.”

Since the C&AG's report was published, completion of Stage 5 in the Military Aircraft Release programme has been delayed from January 2003 until 30 April 2003 due to delays in Westland Helicopter Ltd's certification programme. As a result of the delay, the Department has instigated a comprehensive review of the Military Aircraft Release programme. This review has defined the risks to the Military Aircraft Release programme in greater detail and additional increments to the Military Aircraft Release programme have been added to the overall schedule. Increments of the Defensive Aids Suite capability should be available to support pilot training and to develop tactics and pre-flight messages through the Air Warfare Centre. The last increment (number 6), which is the full clearance of the upgrades to the aircraft and the weapons, should deliver the full Helicopter Integrated Defensive Aids Suite will be available in June 2004. This strategy leaves delivery of the Initial Operating Capability unchanged for August 2004 and the conversion of the first regiment to using the Apache in February 2005, as planned. There will be no additional cost to the Department.

#### PARAGRAPH 1.20

2. The report states that:

“The Department is considering three options for addressing the issue of damage caused by debris from firing of these respective weapons [the Apache's Hellfire missiles and CRV7 rockets.]”

Extensive safety analysis and modelling, including practical testing of the Hellfire rocket motor, has concluded that debris from firing the Hellfire missile does not pose a safety risk to the helicopter in flight but will require extra inspection and potential repair, in particular to the helicopter's stabilator at the rear of the aircraft. For the CRV7 rocket, minor damage has been seen on the stabilator and marks seen on the tail rotor and other areas of the airframe. Industry's current assessment is that these are of less significance than those generated by the Hellfire missiles, and do not represent a risk to safety. The effects in both cases are such that there is no need either to modify the missiles and rockets, nor to limit the numbers of missiles or rockets that can be carried, or restrict the positions from which they can be fired. The Department is assessing modifications to minimise the need for repair of the stabilator, which will be applicable to the operation of both the Hellfire and the CRV7 rocket.

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PARAGRAPH 1.23

3. The report states:

“The Department is currently exploring how to address these shortfalls [in the Apache’s Helicopter Integrated Defensive Aids Suite (HIDAS) capability]. An interim solution will be available in December 2002 and the Department is considering whether to contract for a fully automated version of the same equipment.”

The interim facility was delivered on 20 February 2003 and will be operational in early March 2003, post commissioning. The Department has placed a risk reduction contract for an automated version of the equipment and expects to take a decision on the way forward in late March 2003.

PARAGRAPH 2.23

4. The report states:

“The Department has submitted a claim for repayment of some of these costs, but Westland has rejected the Department’s claim [of £34 million for maintenance courses that could not be run in the period August 2000 to March 2002.]”

The current position is that Westland submitted a counter-claim on 14 February 2003, and the Department is now taking legal advice.

PARAGRAPH 2.24

5. The report states that:

“The Full Mission Simulator was accepted as ready for training by the Department in December 2001, subject to resolution of a small number of software problems and successful fitting of the high resolution visual system specified in the contract.”

The Full Mission Simulator, fitted with the Harmony Image Generating System, was conditionally accepted as Ready for Training on 19 December 2002. The Simulator, including the Harmony system, has been in use since January 2003 to support the development of pilot training. The conditional acceptance refers to residual deficiencies which must be resolved by the contractor by May 2003 but which do not prevent training on the Simulator. This is in accordance with the contract and is normal practice for a project of this complexity. The Integrated Project Team will manage the remaining issues with the contractor.

PARAGRAPH 2.39

6. The report states that:

“The Air Manoeuvre Sustainability Working Group is working on developing [sustainability planning] guidelines [for Air Manoeuvre. ]”

The major issue delaying progress at that time was agreement on the expected flying rate for the Apache during high intensity operations. This matter has now been resolved and sustainability assumptions for the Apache and all other battlefield helicopters are now in place. These assumptions will inform the future support arrangements currently under consideration as part of the Apache Support Reappraisal Project.

PARAGRAPH 2.44

7. The report states that:

“The Support Reappraisal Project is aiming to complete its analysis of the options [for support cost savings] by December 2002 and make the key Main Gate submission on how Apache support will be delivered in the future by October 2003.”

As planned, the bulk of the analysis was completed by the end of December 2002. The Department has identified the potential to save approximately £675 million (undiscounted) over the 30-year life of the aircraft by investing up to £177 million in improved reliability, diagnostic testing, a radical review of the aircraft maintenance policy and spares management, giving a net saving of approximately £498 million (undiscounted). The increase in investment required, compared to that shown in the C&AG’s report, reflects the latest estimate of upgrading the aircraft’s Target Acquisition Designation Sight which is expected to contribute over 50% of the anticipated savings. The Department is confident that there is potential to realise further savings in supporting the helicopters and further analysis is being undertaken ahead of the decision to commit funding scheduled for later in the year.

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### Examination of Witnesses

SIR KEVIN TEBBIT KCB, CMG, Permanent Under Secretary of State, Ministry of Defence; MAJOR GENERAL ANDREW FIGGURES CBE, Capability Manager (Manoeuvre), Ministry of Defence; and MR IAN FAUSET CB, Executive Director 1, Defence Procurement Agency, examined.

#### Chairman

1. Good afternoon. Welcome to the Public Accounts Committee. Today we are looking at the Comptroller and Auditor General's Report on the introduction of the Apache helicopter, and we are delighted to be joined by Sir Kevin Tebbit, who is the Permanent Under Secretary at the Ministry of Defence. Would you kindly introduce your colleagues?

(*Sir Kevin Tebbit*) I have on my right Major General Figgures, who is what we call the Capability Manager for Manoeuvre in the Ministry of Defence, the central customer, if you will, for the equipment, and on my left Ian Fauset from the Defence Procurement Agency, who provides the equipment for the Ministry.

2. Thank you very much, Sir Kevin. May I first thank Major General Figgures for looking after the Committee very well when we visited the Apache on Monday. Those of us who went on the visit were very impressed with this piece of kit. It is clearly a formidable weapon of war and will transform the battlefield. But we are not only concerned with that this afternoon. What we are primarily concerned with, of course, is the procurement programme. If I may start, Sir Kevin, by asking you a few questions, and ask you to turn to page 21 of the Report and glance at paragraph 2.2, which you will be very familiar with, which tells us that you are confident of introducing the Apache capability on time, or by 2004—the programme has already slipped of course from 2002. Given your track record on the programme to date, how confident can we be that you can deliver on time?

(*Sir Kevin Tebbit*) The problems to date have been very specific. The things that have delayed the programme, the critical factors, have been to do with training, a 17-month delay in bringing in the full mission simulator, and a 17-month increase because of the increased time we judged necessary for pilot training on what is a very complex system. Both of those issues have now been cracked; they are now sorted out, and those major changes, the things that have caused the delay, have been overcome. What remains essentially is the need to ensure that the various other complex bits to bring into service come together. The highest risk in that context is what is called the HIDAS, the Integrated Defence Aids Suite. I should say that we have a much more robust risk management system in place for the project than was the case right at the inception. These risks are managed on a quarterly basis. The risk register is common both to industry and to the Department, so that we work to the same set of information. I am satisfied that that remaining risk has now been managed incrementally so that we move from interim manoeuvres to trials, learning from trials, to final release, and that that will all be done before June 2004.

3. So this helicopter is going to arrive on time—the new on time—in 2004?

(*Sir Kevin Tebbit*) Yes, because we have better risk management, and the key problems that have led to the delay have already been overcome.

4. Could delays in the military aircraft release programme scupper your programme, particularly with regard to the Defence Aids Suite which you just mentioned?

(*Sir Kevin Tebbit*) No, I do not think that is the issue. You are quite right that military aircraft release has been a difficulty. It has not been critical on the time path, but it is a problem, mainly because of getting access to US-owned data, which is a broader generic issue that the Government is working on with the United States, but in this particular context, no, I am satisfied that the information is coming across fast enough; it is a question of the trials needed to test the stuff as we go along.

5. Let us just assume for a moment that it does not arrive on time. The Lynx, because of problems with its ageing wire-guided missile system, has to be phased out in 2005. What would happen if the Apache was not on stream by 2004? The Lynx has had to be phased out. We could have a situation where not only do we have a reduced capability as at present, but we have no capability at all.

(*Sir Kevin Tebbit*) From helicopter against tanks? We have actually prolonged the Lynx, done the work, extended its life to December 2005. As we have said, the initial Apache capability is coming in during 2004. We should have the lead elements ready in February 2005, so there is a good cushion now built in as a result of prolonging the Lynx capability to ensure there is no capability gap.

6. As we saw ourselves when we visited the Apache, there have been problems with the Hellfire missile system and the CRV7 rockets. What happens is that when they are fired, debris from them hits the helicopter at the rear. That is a problem which perhaps is inevitable but why have you ended up bearing the risk of this?

(*Sir Kevin Tebbit*) We procured separately the munitions package from the prime contract for the helicopter.

7. Exactly, and that is why you ended up bearing the risk.

(*Sir Kevin Tebbit*) In doing so, we did bear a risk. I suspect we could have avoided bearing a risk if, like most contracts, we had prescribed more in it. If we had said to the company, Huntings, now InSys, "We want you to take all liabilities for any airframe integration issues," they would have charged us more. We had a separate contract for munitions because it saved us £30 million.

8. It is your policy at the MoD to appoint a prime contractor, for this very reason, is it not?

(*Sir Kevin Tebbit*) Yes. I am just explaining, Chairman. It remains value for money. We saved £30 million by having a separate munitions contract and

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**[Chairman Cont]**

taking the risk of the weapons integration on to ourselves. That still seems to be a judgment that is correct. The costs so far of making sure that Hellfire and CRV7 rockets are OK has been absolutely minimal. We have done all the tests, and actually, the problem is not as significant as was first raised when the Americans ran into the problem in 2000. So we have a maintenance issue, and we are looking at what we need to do about that, which may or may not be modifications to provide a stronger stabilator at the back, but as I say, it still has proven value for money because we still saved £30 million on what has been a successful munitions procurement.

9. In the end, it has probably come out all right, but you have a separation between Westland, which are making the helicopter, and InSys, which are making the missile system. So in the end it has probably come out all right, because you have this minor problem of debris hitting the helicopter, which your pilots tell us they can cope with, but looking at defence procurement projects in the past, judging by history, there might have been far more severe problems. Do you not think you were taking a very great risk in not having a prime contractor who was responsible, who would bear the risk of something going wrong?

(*Sir Kevin Tebbit*) As I say, we did actually take legal advice on this, because Westland do have responsibility for integrating on to the airframe, but not for anything that might conceivably happen to the airframe post integration which is nothing to do with the actually fitting of missiles on to the aircraft. It was felt that this was a knock-on effect that could not have been predicted, and therefore we do not have a legal case. As it happens, it does not matter because the risk is, as I say, a small one, which is not costly. The judgment has come out correctly as far as the Department is concerned.

10. We will leave that there for the time being. It is becoming increasingly important that more and more of our operations will be launched from sea. Why is it taking so long to provide a capability of Apache at sea in terms of refuelling, re-arming, landing on a ship like HMS Ocean?

(*Sir Kevin Tebbit*) I think it is just a question of first things first. The first thing is a land attack capability for air manoeuvre. Maritime operation is important but secondary. It was originally an aspiration which was not funded at the initial programme. It is something that we are committed to and we are moving to. We have already done some basic trials on HMS Ocean to make sure the helicopters land on it, go up and down on a ship lift. We will be doing more trials next year, in 2004. It is a non-trivial issue to put these things on to ships, because you need separate spares, maintenance and weaponing arrangements. They all have to be stored safely on the ships. There are different problems over radar, de-confliction with the ship's radar emissions, and corrosion questions, etc, which are obviously different at sea. So there are significant issues to be gone through. You cannot do this until you have done the trials. The first priority is to get the thing into the land environment and then the maritime environment trials next year.

11. Thank you. You mentioned the problems with training service, and we ourselves saw that problem with the simulator. With the benefit of hindsight, was it a mistake to separate the training service from the prime contract?

(*Sir Kevin Tebbit*) I have looked at this very carefully actually. I do not think it was. I think the problems that we have encountered were nothing to do with whether we should have had a separate contract, whether we should have done a PFI or not. We went on the PFI route for a number of reasons: value for money. It was £23 million better, very close. We have had too many discussions with the Committee about NPV judgments to want to go into great detail as to whether this was really a great improvement, but it certainly was not more expensive. We have found that the problem with the PFI contract was the problem of developing the full mission simulator, and specifically the image generator, the thing that actually enables the pilot to see all that he needs to see, combining all the various sensors. That was a software development problem that the company Evans & Sutherland had. Those sorts of problems have recurred in other simulators, for other sorts of aircraft, so there is a generic difficulty. We could not have predicted it at the outset. It would have been there whether it was a PFI contract or not. They are subcontractors to the PFI supplier. In many ways, you could argue—and I think it is true—that being a PFI contract provided greater incentive to overcome the problems than would otherwise have been the case. They do not get paid until the service begins, so the company has foregone about £17–18 million of revenue while this delay has occurred. Had it been a conventional procurement, all part of the prime contract, I suspect there would have been staged payments which would still have gone forward.

12. Let us look at somebody who has been paid, the people responsible for the contractor spares package. As I understand it, they are being paid £175 million in the first 30 months of the operation of this machine, but because it is so late coming on service, during this period it will only have been flying about 5,000 hours instead of 15,000 hours, so you have paid £175 million for a package to cover just 5,000 hours of flying. Again, with the benefit of hindsight, do you recognise you have made a mistake, and have overpaid for what you have got?

(*Sir Kevin Tebbit*) No. There are two separate contracts here, Chairman. One is the £120 million contract for the actual spares package; the other is the special repair facility, which actually does repair, not just provide spares, for £55 million. They are different. The first one was for 30 months and did finish last October. I did look into this. For that £120 million, we used, or still have on the shelf, £90 million worth of spares. So some of those come back to us. There is a further £15 million of spares which we are discussing with the company. They say some element of that is outside the contract; we say it is ours. That will be resolved shortly. The building was £2 million of that amount, which was necessary anyway. The service we have received over those 30 months, and that was for 48-hour service for anything that went wrong, was £5 million. Basically, that leaves about £8 million of that £120 million that was essentially the

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risk we paid to actually get spares within 48 hours. So it would be misleading to imply that all of that £120 million has been lost or wasted, or that, because we only did 5,000 hours of flying rather than 15,000, we only got a third of it. The other one is a separate contract, £55 million, which has two and a half years still to run—it was a five-year contract—and that is mid-way through. There again, we will have spares at the end left over from a lower rate of flying than expected, so we take the spares instead of having all of the value during the course of the contract.

**Mr Williams**

13. I am sorry I was unable to be at the presentation. It would have been very interesting. On the other hand, it means I will ask some rather naive questions which people who also were not there might be interested in. The first time I read the Report, what came over was that you had faults with the secure voice and data communication; you had faults with the Integrated Defensive Aids Suite; you had faults with the Longbow radar, which was its fire control system; you had faults with the rocket weapon; and you had faults with the Hellfire missile rocket, which had the motor that is fitted to all the UK helicopters, which damaged the tail rotor. How far are these the consequence of trying to push beyond the state of the art?

(*Sir Kevin Tebbit*) All the things you have mentioned are development problems which arose in the normal course of the procurement. The procurement of the aircraft and these systems is still being delivered according to plan, so these are issues which have been resolved. Only the Defensive Aids Suites are still finally to be completely resolved as it goes along. It is now only four months later than the original plan, and coming along to cost. So the overall programme is successful, despite its complexity. I would not say it is too complex. It is obviously a very new, challenging type of helicopter power, but these issues that have arisen have been resolved along the way.

14. I remember when we were looking back at Kosovo questioning then why it was that the precursor to this hardly took off in anger at all, leaving Milosevic's tanks fairly safe. Was that due to some of these problems I have just outlined?

(*Sir Kevin Tebbit*) Obviously the Americans will have to answer, but as I recall, it was mainly because they had not really completed the training of the pilots by that stage. Their programme is ahead of ours, but not so hugely ahead.

15. But you would not send the aircraft out there if you did not have the pilots, would you?

(*Sir Kevin Tebbit*) No. They did not deploy them.

16. They were there, and they did not use them.

(*Sir Kevin Tebbit*) They did not deploy them there with the Longbow radar. They did not have the version that has the more sophisticated capability because, as I say, they were still training the pilots to use that more capable system. They have had three types of Apache. We are talking about the most complex version, the one that we have, and for that version their helicopter pilots were not fully trained by that stage. Now, of course, they are, and it has

performed extremely well in Afghanistan during Operation Anaconda—you may have read about it; Apache was one of the great “hero” systems in the fight against al-Qa’ida.

17. It was not facing the sort of air defence capability that Milosevic had. It is a different matter going out in Afghanistan against a couple of SAM missiles or something like that, facing the capability Milosevic had, and really, it is that sort of capability you are wanting to be able to face, is it not? It is not just the Taliban.

(*Sir Kevin Tebbit*) But this is a much more capable system than any helicopter we have had before. I do not know if you would like Major General Figgures to describe the operational benefits that we are getting from Apache as opposed to conventional aircraft and just how survivable and effective it actually is, or I could explain that to you.

18. I have to trade off time against the question.

(*Sir Kevin Tebbit*) It has a longer range; it has less exposure than normal helicopters, because it can fire from a considerable distance, about 8 km away from targets; it is very survivable, and can take a lot of damage. Most of its systems have duplicate systems, so it can lose one and still fly, so it is a very robust aircraft. That is one of its main characteristics. But, as I say, it is a complex system, and only to be flown with a lot of practice, which is why we have extended the training period.

19. Major General, that was not meant as a slight to you. My apologies there. That sounds great. It is all these things, but then we are told in paragraph 1.20 that the Department is considering three options for addressing the issue of damage caused by debris from the firing of the respective weapons. One is to modify the missiles and the rockets so that they do not damage the airframe. That sounds sensible enough. I do not know whether they have managed to do that. The second thing you are considering is accepting the risk of only firing some of the weapons, those which will not damage the aircraft. To what extent does that limit the capability of the aircraft? The third one is to modify the airframe to reduce the risk to an acceptable level. These are three major things you are considering.

(*Sir Kevin Tebbit*) Since the Report was written, the various studies have been completed, and it has been established that this is a maintenance issue, not a safety issue. No modifications are required to the missiles, either the Hellfire or the CRV7. No modifications are required to how they are fired to reduce the weapons load or anything like that, and no modifications are required to the airframe. We could, if we wished, fit a more reinforced stabilator to reduce the amount of maintenance needed on it, but we have not really decided whether that is a cost-effective option or not. So it may require a bit more maintenance in terms of indentations on the stabilator but that is it. That is in the memorandum I sent in just before the hearing. It is work subsequent to the publication of the Report.

20. Knowing the American sensitivities on sharing information with potential competitive rivals, and knowing that this was going to be such a key element of our capability, why did we press ahead with the privatisation of the Defence Evaluation and

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[Continued

**[Mr Williams Cont]**

Research Agency, leaving the Americans to then become reluctant to give us information we need in order to run the wretched thing?

(*Sir Kevin Tebbit*) We proceeded with DERA for broader reasons of strengthening our technology base by strengthening the links with the private sector and the interface between military and civil.

21. But you weakened your links with the people who were supplying you the equipment that is actually going to be used.

(*Sir Kevin Tebbit*) There was a very short-term wobble in the United States, because they did not like the idea of the privatisation of part of DERA. That was overcome within about 12 weeks on this programme. The effect of QinetiQ was a need for them to be then linked into the commercial arrangements between the various companies. That caused about a 12-week delay, which was not sensitive or critical in terms of the overall programme. Can I just mention more generally that I did check before the hearing as to how many of our integrated project teams—we have about 140 of them—were affected in any way by the DERA privatisation, and you can count them on the fingers of one hand. So this was a small problem for a very short period affecting one or two contracts, but that is over now.

22. One final quick question: why on earth when you are dealing with something that is so state-of-the-art did you accept a warranty that excluded design defects? Surely if there is any time when you want design defects covered, it is when you are dealing with a sophisticated product like this?

(*Sir Kevin Tebbit*) I presume because we were essentially, basically, accepting a US design, and knew that it was proven, and therefore did not need to insure against defects in a design which was already flying with the United States Army.

**Chairman**

23. Before I call the next questioner, I think I should give Major General Figgures the chance to tell us a bit about the operational capability. We were told that if it was hovering above Westminster Bridge, it could knock out an Iraqi tank sitting on Kew Bridge, which sounds very effective, yet when it went to Afghanistan, it had to go quite close, did it not, and it was peppered with rifle fire from the Taliban, or small arms fire. Tell us a bit about the operational capability and some of the problems that it has led to.

(*Major General Figgures*) Clearly, Chairman, things would be in a sorry state if we did have an Iraqi tank on Kew Bridge! As for the operational capability, we tend first of all to think of it as an anti-tank system, and of course, it is a hugely effective anti-tank system, and indeed, the illustrations that we gave down at Middle Wallop in terms of its surveillance and target acquisition capability, from the visual, low-light television, forward-looking infra red and radar, enable it to acquire targets at long range and then prioritise those targets and engage it with the appropriate weapon systems. But equally important is this means by which it collects a huge amount of information from the battlefield, and

through the improved data modem squirts that around the other Apaches such that they have situational awareness and understanding, and indeed, that can be squirted down to the ground station, so you get the linkage between the ground, having a recognised picture of the enemy threat, and the air sharing that same picture. So we are achieving something that we have always aspired to, and indeed, is the network enabled capability. It is the first lesson you learn when you join the army in fieldcraft, finding the enemy. There are two great questions in the military existence: “Where am I?” and “Where is the enemy?” “Where am I?” we have addressed, and this enables us to address the question “Where is the enemy?” That enables us to cover a huge amount of ground. The mobility of this craft, both through the air and in terms of operating nap of the earth, is such that it can dominate a large area, and hence we have the ability to provide coverage, to provide overwhelming fire power, and in a way, in terms of manpower, weapons systems, is perhaps more cost-effective than we have had to date. I hope that is a thumbnail sketch.

24. Other members of the Committee can come back on that, but Mr Williams is anxious on this point, and I think it is a very important point. If you look at page 18, which Mr Williams has already referred to, and turn to paragraph 1.24: “. . . Apache will not, however, have the capacity to secure voice communication with the UK Gazelle, Lynx, Sea King Mark 4 and Puma helicopters, nor will it be able to exchange data securely with most of the United Kingdom’s military aircraft.” We have had a lot of publicity about identification of friend and foe, people killed by friendly fire; tell us a bit about how you are going to overcome some of these problems.

(*Sir Kevin Tebbit*) On the communications, you have listed the ones it will not link up with, because they are legacy systems. With the Gazelle, Lynx, Sea King Mark 4 and Puma it is because of the age of those systems, not Apache. What it will have secure communications with are the newer systems: Chinook, Merlin, Tornado and Harrier, the C-130 aircraft and, of course, it will also link with any American Apaches and with its own Apaches, so that it operates in pairs and has full data exchange between them. Secure data transmission is obviously the best. Secure voice is quite good, insecure voice not so good. There will be a secure voice communication with the ground, with ground troops, but the full capability of secure data exchange will come when Bowman arrives, with 16 Air Assault Brigade, which is 2005–06. Bowman, as you know, is being progressively rolled out throughout the armed forces. We have personal role radio there now and we are equipping the ground forces progressively. So that is when that will have full data exchange with the ground forces, 2005–06.

25. Would you like to add anything, Major General Figgures, before we pass to the next question?

(*Major General Figgures*) No.

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[Continued

**Mr Osborne**

26. I too enjoyed seeing Apache at its base in Middle Wallop on Monday, but I was struck, Sir Kevin, that it is a bit of a shame it is in Middle Wallop and not in Kuwait at the moment. Would you agree?

(*Sir Kevin Tebbit*) Yes. I would much rather have Apache there than Lynx, which is what we have there instead, and I share your frustration, as does the Chief of Defence Staff and everybody I know.

27. I think I am right in saying that if there had not been the delays in training, the British army would currently have Apache in the Gulf.

(*Sir Kevin Tebbit*) I think it would be a very close run thing. I will tell you why. Our decision to extend the training was rather different than problems of overcoming software. We judged that it had been given to us wrongly, that Westland had got it wrong when they said you could train pilots to operate this complexity of aircraft in 15 weeks. We are taking 26 weeks to train the pilots. That is safe and necessary. I think that factor probably pushes the in-service date anyway. Even if we had no other problems, that would have made entry into service very close to now. The decision to put Rolls Royce engines in also added six months at the beginning. I think we would be very close at the moment to getting the first aircraft, even if we had no problems of any other kind. So touch and go, but clearly, Kuwait was not an event that was foreseen when we were going through the Apache build programme.

28. What sort of impact would it have on your ability to conduct military operations? If it comes to it in the Gulf, what could you have done that you are not able now to do?

(*Major General Figgures*) We would have a much enhanced surveillance and target acquisition capability, and an enhanced anti-armour capability, and therefore—and this is not within my immediate area of responsibility, because this is an operational matter—one might suggest that one would therefore have a different force mix as a consequence. So I think the deduction would be that the commitments and operational staffs have the appropriate force mix, carried out with the appropriate force estimation process and generating appropriate forces in Kuwait to deal with the perceived threats and tasks. So they have task-organised the deployed forces perhaps differently from what might be when we bring Apache into service.

29. When I was there on Monday I met qualified pilots. Was any thought given to deploying at least some Apache to the Gulf? You have the craft, you have some pilots who are trained, and I know that in previous conflicts, for example in the Gulf War, you used a laser designator that had not been properly cleared because you thought it would be useful at the time, and the Sea Skua missile in the Falklands. Did you consider doing that in this operation?

(*Sir Kevin Tebbit*) No, we did not, because it is not yet quite safe enough to do so. Remember, this is a 30-year capability. It extends over a 30-year period. Trying to get these things out initially in a rush usually goes wrong. It is interesting that the Americans did not use theirs when they tried to rush them out into Kosovo in 1999. We do need full military aircraft release before we use them

operationally at all, and that is not quite there yet. So we do not have the option of putting it there, but as the General says, its absence should not mean that our concept of operations today is flawed, because we are doing it by other means. This is about a completely new way of fighting on the battlefield, in a digital battle space, with a lot more reach, a lot more scope. Two of these aircraft can cover an area of about 1,100 sq km. It is a huge area, and that is the change. At the moment we are having to use a lot more aircraft to do the same task. That is the difference.

30. If I could briefly look at the causes of the delay and cover some of the ground the Chairman and Mr Williams have been over, one of the things that struck me when looking at this PFI deal was that one of the problems you had in the maintenance training, was the delay in the production of acceptable courseware and publications from Westland to ATIL. Presumably, that would not have happened if the prime contractor had also been providing the training.

(*Sir Kevin Tebbit*) I think it is a separate issue, because the prime contractor certainly had to provide the courseware to us for us to certify that it was OK then to be used on the systems for maintenance. That would have been necessary in any event. I am not sure that going for PFI changed it one way or another. If we had been doing it ourselves—we were not doing it for ourselves; we were doing it under a PFI—maybe we could have indeed saved that money or some of it. We in any case would have wanted to train our maintainers but the information was not there from Westland, and it would not have been there from Westland anyway.

31. But you are paying £34 million to ATIL for maintenance courses which you could not run because they did not have the information. It seems a bit strange. Here is ATIL, which is a sub-group of Westland, part of the Westland operation, and you are having to pay part of the Westland operation £34 million because another part of the Westland operation has not provided the information to ATIL.

(*Sir Kevin Tebbit*) That is right. It is a Westland/Boeing joint venture, yes, and it is very unfortunate that we are having to do that.

32. You are going to get the money back from Westland?

(*Sir Kevin Tebbit*) We have counter-claimed, and we have a claim in of £8 million against Westland for non-arrival of the courseware, which our lawyers tell us is a very robust claim.

33. Maybe you should have suspended the payments to ATIL.

(*Sir Kevin Tebbit*) Certainly ATIL, who were doing the helicopter pilot training on the FMS, were not getting any money, of course, until the pilot training began. I did look at a cost savings breakdown between the two routes, and you are quite right that we saved £23 million NPV by going down the PFI route. We have saved £17 million by not paying for the pilot training that we have not received. We got £2 million of liquidated damages from the company because of the late arrival of the FMS system. We have an £8 million courseware claim, and we have separated munitions as well, so

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our PFI approach has saved us £80 million. On the other side of the coin, the courseware is costing us £34 million; we had to do training in the United States because it was not available, £3.5 million; we have had to store some Apaches, £6 million; and we have had to run on Lynx with TOW, which cost us £15.5 million. So I make it that we have saved £80 million by going down the PFI route, and it has cost us £58.5 million. We are still ahead.

34. I said to the pilot showing me round the cockpit, "What question would you like me to ask the Permanent Under Secretary of the Ministry of Defence?" and he said he was generally very impressed, thought the training was fantastic, and the equipment was great, but he said the one thing he felt he was lacking was a skills trainer, as he called it, which was to practise with the handset a great deal, and he felt that if that could be put into the training programme—maybe this is for the Major General—that would help him, and the American pilots in Kosovo had had problems because they had not got that constant training with the actual handset. So he put in a request for a skills trainer.

(Major General Figgures) You will recall when we went round the Apaches the multi display trainer, which I think was described to us as the means by which that particular skill was built up and maintained, and then we were also briefed on the deployable trainer, which enables the pilots to practise all the skills in the field, so we have something whereby, for instance, if we deployed on expedition or operations, and operating from their base, that will be deployed in a container, and when they were not flying in training, they would be maintaining their dexterity skills in that environment. So we have it, but what we do not have is one for everybody, and I suppose, as time goes on, in view of the fragility of that skill, we must look at how best to maintain it.

35. Can you assure me, Sir Kevin, that you will learn all the lessons that can be learned from the deployment of American Apaches in the Gulf, if they are used, obviously, and as the Chairman mentioned earlier, one of the lessons that we were told about on Monday from Afghanistan was that the Apache was drawn into much closer combat than had been envisaged when the equipment was originally designed, and that Apaches came back full of bullet holes. They survived that, but obviously the Americans were surprised at that close use of the Apache. Are all these lessons going to be learned so that we make the most of this piece of equipment?

(Sir Kevin Tebbit) Indeed. I am glad you asked me that, because I was disobliging to the United States earlier about the difficulty of getting data from them as a generic problem. When it comes to the exchange of information on the way in which the helicopter works, operational methods and tactics, that sort of thing, there is a very close exchange with the Americans, and I can give you that assurance. I quoted the damage they took during Operation Anaconda deliberately to show the robustness of the airframe. What they were doing was not actually prescribed tactics and doctrine; they were deliberately getting fire from the caves to find out where the al-Qa'ida people were. So they were deliberately flying their Apaches in order to get shot

at, which I would have thought was a rather risky thing to do, but anyway, that is what they chose to do to find out where these people were, which caves they were in. They certainly found out, and they also found that they had quite robust airframes, but that is not central to the operational mode of the Apache.

#### Jon Trickett

36. I want to focus, Chairman, on the question which you addressed first of all, which is about the spare parts procurement, which seems to me to have been an abysmal mess. £120 million was paid in what is described in an interesting phrase, "an innovative approach" regarding spares. In fact, the vast bulk of that money was handed over to Westland but was never drawn down, was it, because we only used 5,000 hours instead of the 15,500 which had been intended?

(Sir Kevin Tebbit) Perhaps I did not make myself clear enough earlier. I am sorry. The contract is innovative because we are looking here for an integrated contractor logistic support arrangement. In the past, we used to buy huge great packages of spares with the initial aircraft purchase, usually much more than we needed, and they sat on the shelf, and it has been a scandal. We have had hearings about logistics in the past. This time the contractor was asked to provide a specific package of spares, linked to the repair that he would also do, so that he bore more of the risk of getting it right. That was the innovative bit. Also incremental, incremental because we did it for a short period of time, so that we could then assess what the real usage rate of spares was, so that we can now go ahead and let long-term contracts which are more accurately based on what the requirements are. I explained earlier that although we only flew 5,000 rather than 15,000 hours, the difference comes back to us in terms of spares not used.

37. No, you did not say that.

(Sir Kevin Tebbit) I did. I am sorry. Perhaps I did not make myself clear. Let me make myself absolutely clear.

38. The transcript will say that what you said was there was £90 million worth of spares left, some of which, you said, will come back to us.

(Sir Kevin Tebbit) I am sorry. I obviously did not make myself clear.

39. Those were the words you used.

(Sir Kevin Tebbit) What I said was that spares used or left now on the shelf to the value of £90 million. I am not sure what proportion is still available for use or has been used, but if it has been used, we have had the value; if it has not been used, it comes back to us. In addition, there is £15 million on the shelf, as it were, where we are having a debate with the company because they say some of those are theirs, in relation to other contracts or whatever; we say no, they are ours. I expect that to be resolved shortly at around £15 million. That will come back to us. We paid £5 million for the service that they gave us, that is to say, repairs within 48 hours, spares within 48 hours. That has gone. It cost £2 million for the building, and that leaves £8 million. £8 million was the amount of

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money we paid in order to be sure that we would get the spares and repairs within 48 hours. That is how it breaks down.

40. What is your estimate of the value of the service which you received, the 5,000 hours you actually worked rather than the 15,500 hours which you had planned to operate? What proportion of the £120 million do you estimate was used for the 5,000 hours, a third of what you had estimated?

(*Sir Kevin Tebbit*) It is much more than a third of that £120 million. As I say, used or coming back to us is around £105 million of either service taken or spares to be returned. The rest by and large was service, or the building or, as I say, the risk of them doing it rather than us.

41. Earlier you said that there were £90 million worth of spares which were left.

(*Sir Kevin Tebbit*) No; I said used or left on the shelf. I am sorry. I am correcting myself. I may have got it wrong, but that is the fact.

42. What is the value of the spares which were utilised?

(*Sir Kevin Tebbit*) That are left available to us?

43. Which you own.

(*Sir Kevin Tebbit*) As I say, I am not absolutely sure how much of that £90 million is spares to us. It is probably about £20 million-odd, but I am not certain.

44. I do not know if the Chairman would agree, but I think the Committee would like an analysis.

(*Sir Kevin Tebbit*) I am just trying to give it to you.

45. You just said you did not know, did you not, and you are looking over your shoulder?

(*Sir Kevin Tebbit*) I am looking over my shoulder. £80 million is still on the shelf today.

46. So, £80 million of spares.

(*Sir Kevin Tebbit*) Which we own.

47. Then there is a proportion of spares which you do not own.

(*Sir Kevin Tebbit*) There is a proportion of spares which are in dispute.

48. I thought you said £15 million, the ownership of which is disputed.

(*Sir Kevin Tebbit*) Yes, £15 million which is in debate but which we expect to own.

49. So in total there is £95 million worth of spares from a contract of £120 million unused, some of which you own, some of which there is a dispute over.

(*Sir Kevin Tebbit*) The vast majority of which, give or take 2 or 3 million worth, we own.

50. In your opinion, or has it now been resolved that you own the lot?

(*Sir Kevin Tebbit*) The amount of spares under debate is £15 million. We expect this to be resolved at around the £15 million figure. I cannot be certain whether it is going to be exactly £15 million or slightly less.

51. Paragraph 2.37 clearly says that there was a dispute between yourselves and Westland about the price of the disputed spares. I presume that is what it is referring to.

(*Sir Kevin Tebbit*) This is the £15 million.

52. Then in the last sentence of that paragraph it says this is not really a problem, because all we will do is simply go to those Apache helicopters we cannot use and bastardise them.

(*Sir Kevin Tebbit*) It does not say that.

53. It does say that. That is precisely what it says. It says, "When it is not able to obtain spares from other sources, the Department may have to source these items from stored Apache helicopters."

(*Sir Kevin Tebbit*) That is what it says. It does not say "bastardise."

54. Where I come from, that is precisely what the word means.

(*Sir Kevin Tebbit*) That would be the last resort.

55. Is that what is going to happen?

(*Sir Kevin Tebbit*) If you would just allow me to answer your question—if I may say so, you are being an unreasonably hostile questioner. I am trying to answer you as helpfully as I can. I have explained that although we paid a lot of money for the service, we are getting back the spares unused, so it is highly unlikely that we will need to go to aircraft in store and take spare parts from them. That is available as a last resort, which, I think you would agree, would be a sensible thing to do if it were the last resort, rather than buying them separately.

56. If I had spent £120 million on a spares contract, £95 million of spares were unused, I think I would be rather surprised that I was arguing with the supplier and probably having to resort to stripping out spare parts from helicopters which I had paid for. Worse than that, I see that there is another problem, which is the repair and overhaul contracts, and there again, you are talking about stripping out spare parts, are you not?

(*Sir Kevin Tebbit*) You would do this if it were yours.

57. With respect, I would not get myself in the mess you have got yourselves into.

(*Sir Kevin Tebbit*) This is not a mess. This is a statement of options available should they be needed. This is put in for completeness, so that all possible avenues are described. I do not expect us to have to take spares from aircraft in storage. It is just saying that option is available should it ever become necessary as a last resort, pending the introduction of long-term arrangements for these items. I explained earlier that the reason we have not introduced those arrangements so far is because we wanted to establish usage first so as to be able to inform the letting of long-term contracts better than has been the case in the past.

58. Can you tell me why there was such a mismatch between your estimate of 15,500 hours and the actual utilisation of 5,000 hours? This is the root cause of this massive contractual mess.

(*Sir Kevin Tebbit*) There is not a massive contractual mess. As I have explained earlier, there has been a problem with two aspects of training.

59. I asked you a question about the number of hours.

(*Sir Kevin Tebbit*) That is what I am answering. It was to do with training. We could not train our pilots as intensively as intended, because we had trouble in introducing the full mission simulator, 17 months,

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and we decided to extend the course for training our pilots as well. As a result of that, the flying has been essentially by instructors, and that is why it is 5,000 rather than 15,000, as we expected.

60. Whose fault was that?

(*Sir Kevin Tebbit*) If you want to pin it down in a blame-culture way, I expect it was Westland's for first assuming that they could train pilots in 15 weeks. That proved to be wrong and we extended it to 26 weeks. On the full mission simulator, it was the fault of assuming that the company could bring into service such a complex system as this. They ran into serious problems with software, the main one of which was the image generator. A company called Evans & Sutherland had tremendous difficulties achieving the service, and that is the reason for the delay. We have had apologies from Boeing about it in public, who have said they have not done well and they hope to do better. We have had liquidated damages of £2 million for it—I wish it was greater but it was not—and that problem has now been resolved, but that has been the reason for the delay and the lower flying hours.

61. It is arguable that the £95 million worth of spare parts currently unused is a direct result of those mistakes that you have just described, is it not?

(*Sir Kevin Tebbit*) It is, but they are a benefit, not a loss. They sit there as ours.

62. You would not necessarily have spent £95 million on unused spare parts. You asked me what I would do in a domestic situation. There is no way I would put £95 million of spares in the garage in the hope that they might be used. I would take action against somebody.

(*Sir Kevin Tebbit*) We are drawing them down as we carry on. That was at the point of the contract finishing last October, and they continue to be used as we use the aircraft.

63. Can I just ask one last question? Where are these £95 million worth of spare parts stored?

(*Sir Kevin Tebbit*) I would have to ask a question in terms of the location. It would be at one or more of the operating bases.

64. Is it costing the taxpayer money or is it costing Westland money?

(*Sir Kevin Tebbit*) They are at Wattisham.

65. Are we paying for the storage costs or are Westland paying for it?

(*Sir Kevin Tebbit*) I assume they are now owned by us and are no longer the responsibility of the company. They are sitting in the warehouse that was built for £2 million.

66. Are you sure they are not ageing and gradually becoming obsolete while we are waiting to draw them down?

(*Sir Kevin Tebbit*) No.

#### Mr Steinberg

67. Continuing with what Mr Trickett was talking to you about, I actually participated in the Parliamentary Armed Forces Scheme in 1995–96, and it was then that I actually saw the policy of robbing Peter to pay Paul. You were actually doing

it, and I can remember being taken to an RAF station and the Tornados were coming in, and they were taking parts of the Tornados that were coming in and putting them into the Tornados that were going out, and it was a sort of conveyor belt, simply because there were not enough spare parts.

(*Sir Kevin Tebbit*) That certainly used to happen, yes.

68. The way the cross-examination has just gone, it seems that you are prepared to accept exactly the same sort of situation, which seems to me bizarre.

(*Sir Kevin Tebbit*) No. What is written here by the NAO is, I believe, for the sake of completeness, to describe all of the options that are available to the Department, pending the putting into place of long-term spares contracts. I do not expect this to happen, but since the aircraft are in storage, regrettably, because of the delay in the training systems for this, it might be more cost-effective, if necessary, to use parts from those aircraft, which will then be replaced before those aircraft are used, than to try to get them from the United States over a long distance, taking a lot of time. That is just an option. I am not saying that is most likely. What is most likely is that the £105 million of spares that we have been talking about will be used over the next two years to keep the aircraft that are flying in normal, good working order.

69. So what you are saying is that once all the Apaches are in use, there will be no such problems.

(*Sir Kevin Tebbit*) No, because we will have good, modern, incremental contracts in place. We have not decided precisely how to do them all yet. We have two long-term contracts in place, for the airframe and for the radar. The previous contract finished last October. There are two more for transmissions and the target acquisition and designation systems and the pilot night vision systems. Those are still being negotiated, because we were not satisfied we were getting the right price, and therefore since this is a single supplier contract, if there is no agreed price, no contract, and we are still working on that, but I expect these to come into effect over the next short period, and certainly they will be in place by the time we get the full operating capability of the aircraft.

70. Can we just clear up something: are Westland actually holding on to spares, or have they not produced them yet?

(*Sir Kevin Tebbit*) No. They sit there. In fact, it is more than one location. I am advised it is several locations: Stafford, Wattisham and Middle Wallop. These are our spares.

71. So they have been produced; they are just being held there.

(*Sir Kevin Tebbit*) Yes, save for this slightly disputed element of the £15 million worth, which we are sorting out with them.

72. Another thing I read was that the Apache will need modernising after the year 2005. It has not even come in yet and you are talking about modernising it. Explain what that means and how much that is going to cost. It seems rather incredible that we are talking about a modernisation of a weapon that has not even come into service yet.

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(*Sir Kevin Tebbit*) Which part of the Report are you looking at there? Certainly we expect to modernise the aircraft over its life, which is a 30-year life. I am not aware of what we will be doing in 2005.

(*Sir John Bourn*) It is paragraph 2.46.

(*Sir Kevin Tebbit*) I see. Yes. I have described the achievement of compatibility with the Bowman forces already, and the Defensive Aids Suites are actually at the moment being introduced, and by 2005 we will have brought them into service. I think we are incrementally improving them as we go now. That is happening now.

73. So it is not a programme where if a helicopter does not come into use, it will be modernised before it is even flown—or does it mean that?

(*Sir Kevin Tebbit*) Yes. Indeed, some aircraft are already being upgraded before they have fully come into service, because of the way in which we are putting in the Integrated Defensive Aids Suites.

74. One of the things I was quite amazed at when I read the Report was the apparent non-cooperation of the US in terms of supplying data from their trials. It seems incredible to me that they are supposedly our allies, we could be going to war together in the next two or three weeks, and yet the Americans withhold information from us, which would cost us time and delay.

(*Sir Kevin Tebbit*) At the political level, it is absolutely fine.

75. What does that mean?

(*Sir Kevin Tebbit*) At the political level, all Americans think this is absolutely monstrous. These things should not happen. It must be passed across. The problems occur between companies and companies, owing to restrictive legislation in the United States which requires authorisation by the State Department before information can be passed from one American company to a foreign company. This is a very cumbersome business. It exists across the board in foreign business with the United States, and it is something we are in dialogue with the US Government over, but it requires quite a lot of work to get it overcome.

76. Are we sharing any more projects other than Apache?

(*Sir Kevin Tebbit*) Oh, yes.

77. And it happens all the time?

(*Sir Kevin Tebbit*) We have lots of projects and it is often a bit of a niggles, yes.

78. And it has been going on a long time?

(*Sir Kevin Tebbit*) For ever.

79. And nothing is done about it?

(*Sir Kevin Tebbit*) Lots is done about it. We are negotiating what is called is the ITAR (International Traffic in Arms Regulations) waiver, which will make it easier for US companies to share information with us, and once we get the waiver of that it will be much easier to receive information from the United States. And we are negotiating memoranda of understanding on individual programmes. One of the delays here was that we did not have a full memorandum of understanding on Apache as early as we should; we had a general letter of understanding but that was not good enough and it took us about two years, from about 1998–2000, to

get the full MoU in place. Once that was in place things came more easily but I am afraid we are dealing with a rather legalistic country, and it is heavy going.

80. I wanted to pursue a question Mr Williams asked on paragraph 11, page 4, which was where we were told that the Apache will replace the Lynx which uses the TOW missiles—and I have not a clue what they are but never mind—and it says that as a result of the delay the missiles are going to be retained until early 2005 at a cost of something like £14 billion but not after that date. Why? Why is it if you have not got the Apache up and running by 2005 and you are going to pay £14 billion or million, probably million, why can you not continue that until you have Apache, and why is it possible you may have a period where you have no cover at all and yet you have paid £14 million to cover that particular date and then you just stop? What is the sense behind that?

(*Sir Kevin Tebbit*) As I explained, we have prolonged until the end of 2005 now, not the beginning. The initial operating capability of Apache comes in at the end of 2004—August 2004—then we have the lead task force for February 2005, so we have ten months between the phasing out of the Lynx TOW system and the arrival of the Apache system.

81. So will you be giving us a guarantee that there will be no period where we will be without this sort of deterrent?

(*Sir Kevin Tebbit*) I am very satisfied that now we have a very good control of the programme—the risk management is done well, it is revised quarterly, the last time was on 10 February—these dates can be met.

**Mr Steinberg:** I have run out of time almost so I am going to quickly ask this: it has been mentioned that the Americans can train their pilots in 15 weeks apparently, according to the Report, and that our pilots take 26 weeks to train. Why? What is the difference? Are our pilots not as good as the Americans? Are they not as bright, or what?

**Chairman**

82. They also live longer!

(*Sir Kevin Tebbit*) A British pilot is the finest pilot in the world, even if it is an NCO which is 60% of the case in the Army Air Corps. Firstly the Americans have decided themselves to extend, or they are thinking of extending, their courses; they are planning at the moment to extend their courses to 21 weeks because of the complexity of the airframe, so they themselves are moving from 15 weeks to 21 weeks. Secondly, and this is a judgment that our people made on the basis of the technical challenge they faced, it may be a bit more than the American pilots because they have flown the two other versions of the Apache beforehand, so although the Apache Longbow is more sophisticated than any of the others it is a bit easier for an American pilot going from an earlier Apache version to this than it is for a British pilot going from two dual-seater systems. Thirdly, we are now improving on the time it is going to be taking to get our pilots into service. I think you have a date in the Report of full operating capability by February 2007. We are planning to improve on

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that now by getting back, I hope, to around August 2006 by cutting our flying training course to 20 weeks and doing the weapons element separately so we can get more people going through the full mission simulator and using concurrently the weapons training facilities elsewhere, so we will improve on the February 2007 full in-service date to somewhere in the autumn of 2006.

**Mr Steinberg**

83. Sir Kevin's answers are very long, Chairman, and therefore I suspect you will allow me to ask this: why is it you disagree with Westland when Westland said they did not believe that you needed the simulator in full swing—

(*Sir Kevin Tebbit*) That we did not need more than 15 weeks.

84. And Westland apparently said you could have been training your pilots now and could have gone back for a refresher course once you had the simulator. Why did you disagree with that, because if that had been the case pilots would have been ready now?

(*Sir Kevin Tebbit*) For safety reasons. It is vital to practise emergency procedures first, and it is much better to do that on a simulator than on a real aircraft because you tend to kill pilots and lose whole aircraft. Our rules are very clear, therefore, and the army is absolutely clear about this: that for reasons of fundamental safety the emergency procedure is first on the simulator and only then flying the actual machines, and they felt it could not be done in any other way. Frankly, the Americans did try to do it the other way and they lost quite a lot of airframes early on so we think we have it right. The reason Westland thought we could do it in 15 weeks was that they did not allow for sickness or British weather as opposed to American weather, and by and large they were working 12 or 14-hour working days, and we felt that was too much for pilots to cope with and our days are rather less. Also, we have more restrictive airspace so we cannot get quite as much flying in as they can. We did not know this until we sent our 16 pilots to America to train there, and it was only when they were on the American courses that we realised in the light of their experience that we should go for 26 weeks.

**Chairman**

85. It struck me on Monday that it might have been cost-effective to send more to America given the much better weather conditions there, more space and better training facilities.

(*Sir Kevin Tebbit*) But different aircraft at the end of the day. They would still have to convert to our type with the Rolls Royce engines with our Defensive Aid Suites, and we do not want to be totally dependent on the US Government for this.

**Mr Davidson**

86. Can I follow on the point about data from the United States and the lack of United States' co-operation? How long has the delay been in the project because of that lack of co-operation from the Americans?

(*Sir Kevin Tebbit*) It is not like that, Mr Davidson, although I could identify a 12-week period where we had a problem as a result of QinetiQ being established but it is just the amount of effort needed to get the material when it should be flowing freely and easily and, as I say, part of it is putting in place memoranda of understanding.

87. I understand that but I was asking specifically about the length of delay. So the programme has not been delayed in any way as a result of the lack of co-operation from the Americans?

(*Sir Kevin Tebbit*) Not significantly and, as I have said, the delivery of the aircraft has run broadly to plan and is about five months late in total.

88. It is true that the privatisation of part of the Defence Evaluation Research Agency did cause a number of difficulties to this particular programme?

(*Sir Kevin Tebbit*) It caused a delay of twelve weeks in getting data.

89. Are there other programmes where similar delays were caused as a result of that privatisation?

(*Sir Kevin Tebbit*) As I mentioned, I did look at how many programmes had been affected by this and I found four out of a total project base of 140, so small but nevertheless it should not have happened. It did, however, and it took us a while to recover.

90. Was that a factor then in the costing of the privatisation?

(*Sir Kevin Tebbit*) No. It was too small for that because I think Apache was the most extreme example and that was twelve weeks.

91. And what would the cost of that be?

(*Sir Kevin Tebbit*) I do not think we could have costed it in those forms. Not all of these were American; it was also British companies who were uneasy about intellectual property issues, so I would not like to put a figure on it.

92. I understand that. Can I just clarify the extent to which we have this difficulty about release of data and so on with other countries? If we are doing joint projects, say, with the French, for example, do we have the same sort of data exchange difficulties?

(*Sir Kevin Tebbit*) We have had but it is more with the US programmes because of a US system which protects its own industry quite strongly and therefore is not very well geared to interacting. We do better than anybody else there but it is an issue. I would not want to make it too large. I mentioned it because it was—

93. I am conscious of it because I have been aware of this before in a number of other areas. Is this lack of co-operation not a major issue where it would at some stage make a difference between buying American and not?

(*Sir Kevin Tebbit*) It is really the difficulty of overcoming the obstacles rather than a total lack. I think the reasons for buying American or collaborating with the United States as distinct from

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Europe are bigger than that factor. It is an irritant and a nuisance to people like me but it is not really significant in the great scope of things.

94. I wonder if I could turn to this question of the training contracts, particularly focusing on paragraph 2.19. As I understand it, it was originally the case that you were thinking of having the training package as part of the overall contract?

(*Sir Kevin Tebbit*) That is correct.

95. Then you decided to make it a separate contract?

(*Sir Kevin Tebbit*) Yes.

96. And presumably because of issues of intellectual property rights and design rights you ended up having to negotiate with exactly the same people that you were going to deal with anyway. I do not quite understand how there was then a saving?

(*Sir Kevin Tebbit*) It was not quite the same people; it was a consortium formed between Boeing and Westland called ATIL, so it was slightly different but linked.

97. If it had been in the original contract and it had been just with Westland, Westland would still have had to deal with McDonnell Douglas who had the intellectual property rights, so by going separately they became partners legally but it was still exactly the same people, the same actors and the same information, was it not?

(*Sir Kevin Tebbit*) Yes.

98. So why was one route cheaper than another?

(*Sir Kevin Tebbit*) The intellectual property we found cost something like \$48 million so it was not worth going outside that family of companies so we stayed with them and therefore it was a non-competitive contract. That meant not that it was not cost-effective—we judged it was £23 million better NPV—but it took a long time to put it in place because when it is a single-source contract we have to—

99. Sorry, maybe I am explaining myself badly. I understand it is £23 million better than the public sector comparator. What I do not understand is how there was a saving going for a negotiated contract rather than having it as part of the prime contract when you are dealing with exactly the same people and exactly the same package of information?

(*Sir Kevin Tebbit*) Because, of course, they are behaving in a different way. They are giving us a PFI service rather than us simply buying it as we go along. I am not quite sure of the point. We would otherwise have had to have provided the infrastructure ourselves.

100. I am reading paragraph 2.19 where you decided not to have the provision of training services and all-related equipment in the competition for the prime contract. You decided to deal with it as a separate procurement, a PFI exercise, with exactly the same people and no competition, and I am not entirely clear why you followed one route rather than the other and, if so, what was the saving?

(*Sir Kevin Tebbit*) The saving of £23 million NPV was mainly because of risk transfer. We were transferring the risk of the whole process to the prime contractor and so, of course, it has proved because the delays in bringing on a full mission simulator

have meant that they have not got any money for it until it happens. So £17 million again is a measure of part of the risks that they were paying. But the main point is that this is over thirty years and they are coping with various risks: they are putting in place all the infrastructure, and are having to cross their fingers that we continue to need it over that period.

101. But my understanding was that the saving was £23 million over a public sector comparator, and it has already cost us £34 million extra for training and it has cost us £6 million extra for storage of the helicopters we are unable to use. What is the value of the helicopters that are having to be stored across the £6 million?

(*Sir Kevin Tebbit*) If you assume a value of the aircraft of something like £27 million each, because they are very sophisticated, times the 14 or 16 we have in storage, it is £440 odd million. It is 27 times 16.

102. At some point I am sure I read that we had 40 in storage, and that is a substantial amount of equipment lying idle.

(*Sir Kevin Tebbit*) That is incorrect.

103. But how in that case is the risk transferred if we have paid for all that equipment that we are unable to use? Are there penalties for the training contractor to cover our money being tied up in depreciating assets?

(*Sir Kevin Tebbit*) No. The risk of transfer was purely in terms of the training package.

104. But not the consequences of the failure of the training package. The risks of that have not been transferred to the training contractor?

(*Sir Kevin Tebbit*) That is correct.

105. They have remained with us, and therefore the costs of having all these depreciating assets valued at huge amounts of money stay with us?

(*Sir Kevin Tebbit*) That stays with us. They are not depreciating very quickly because what is happening to these aircraft is some are being upgraded—not modernised but upgraded—as they go because we are putting the integrated defence aid suite on as we go, so some things are happening to them—

106. We would not have chosen to do it that way, would we?

(*Sir Kevin Tebbit*) No, and I absolutely agree with you. I did give you a calculation at the initial stages of what we think we have saved by breaking off elements from the prime contract and what we think the additional cost has been, and I said totally we have saved £80 million and the cost on the other side has been £58 million. In doing that, of course, I have not costed the loss of capability we have had by not having these aircraft fully on-line and operating. I think they would only just be coming into service but they would be 30 odd months ahead of where they are, and I agree with you—

107. So only just coming into service would mean we would have them in the Gulf now, potentially?

(*Sir Kevin Tebbit*) I do not think they would quite be there yet. They would be very close, though.

108. But the way things are dragging on, you never know. They might very well be there—

(*Sir Kevin Tebbit*) We would certainly have them before 2006.

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[Continued

[Mr Davidson Cont]

**Mr Davidson:** We might be inclined to have further negotiations if we knew Apache helicopters would be available after 45 or 90 days.

**Chairman**

109. You can plead the fifth amendment on that.  
(*Sir Kevin Tebbit*) I do.

**Mr Davidson**

110. You mentioned that British pilots were the best in the world “even if they were NCOs”. Could you clarify that point for me?

(*Sir Kevin Tebbit*) That was a flippant remark of mine. The only point I was really making is that the Army Air Corps has 60% of its pilots as NCOs which is not the practice of the Royal Air Force, and I find that interesting because they are first class pilots.

111. I am sorry—“even if they are NCOs”. Can you clarify that point for me? Some of these working class chaps are jolly good, you know?

(*Sir Kevin Tebbit*) Just like me—I started that way too! I was trying to make no particular point of it except there is a point that is worth making which is that we have a very good retention rate from NCO air crew. They tend to stay in the service for a long period of time which is one of the reasons why I am confident we shall have the manpower through life for this airframe and not have any difficulties in retention or supply of people. This is very important for these very sophisticated aeroplanes. I was making a very flippant remark and the point I was really making was in the reverse sense—that these boys are really good at coping with this highly integrated, complex system where they have 57 different bits of equipment to operate with their thumbs and fingers, and I think it is very impressive.

**Mr Davidson:** Even though they are NCOs? I understand.

**Chairman**

112. General, do you want to comment on that?  
(*Major General Figgures*) Tempting though it might be, I feel it would detract from the business of the Committee.

113. What a pity!

(*Sir Kevin Tebbit*) It was a light point. I sometimes reflect with my Air Force colleagues why they are not prepared to have NCOs. I am in deep water here—

**Mr Davidson:** That will teach you!

**Mr Rendel**

114. I would like to start by asking some questions along the same lines as Mr Davidson, if I may. Firstly, in your supplementary report to us, Mr Tebbit, you talk about paragraph 2.23 and you talk about the £34 million of maintenance courses. You say: “The current position is that Westland submitted a counter-claim on the 14 February 2003, and the Department is now taking legal advice”. Do you mean by “counter-claim” they are trying to sue

the Ministry of Defence for extra costs, or simply that they are telling you that they should not pay the full £34 million?

(*Sir Kevin Tebbit*) I do not think they are but perhaps Mr Fauset can answer.

(*Mr Fauset*) The £34 million is what we have paid for the maintainer courses. We have argued and taken legal advice that we can really only claim back £8 million of that £34 million, and I can go into the reasons for that. We have therefore made a claim on Westland for £8 million. They have reciprocated with a counter claim of £8 million and therefore—

115. Do you mean to say they are going to try and get from you not just the £34 million but a further £8 million?

(*Sir Kevin Tebbit*) No.

116. So it is a counter claim in the sense that they are trying to stop you getting the last £8 million, or getting back from them the last £8 million?

(*Sir Kevin Tebbit*) Yes.

117. Thank you. Can you remind me, Sir Kevin, of some of the costs you were mentioning earlier when you said you had made a list of the savings and costs. Firstly, the extra costs of keeping the Lynx in service you said was £15 million?

(*Sir Kevin Tebbit*) £13.5 million, and that was really for the TOW missiles to prolong the effectiveness of the missiles.

118. Are you claiming those costs from Westland?  
(*Sir Kevin Tebbit*) No, we cannot.

119. Perhaps this goes back to the original question about why we can only claim £8 million. Why can we not claim all these consequential costs?

(*Mr Fauset*) On maintainer training? We had maintainers ready for training at the beginning of the training period for training maintainers and there was no courseware available. Therefore, we claimed £8 million for that period when we had maintainers ready to be trained until we found out that the full mission simulator was going to be late and that pilots would not be trained and therefore aircraft would not be flown and therefore there was no requirement for the aircraft to be maintained so we diverted the maintainers to look after the Lynx. So the legal advice was that, once we had gone past that point where we realised we could not use the maintainer training, we could not claim that element of it which was £26 million. It is only up to the point, therefore, when we realised that the aircraft were going to be late in service because of the delay for training.

120. So if you had gone ahead with getting them trained, as soon as the manuals were in place then you could have used that money, in effect? You just decided yourself you would lose that money because you would rather use the maintainers on the Lynx?

(*Sir Kevin Tebbit*) Yes, because we were having to prolong that capability. My initial temptation was to claim the full £34 million. It was the lawyers who said, “You will not be able to get it because you denied yourself the ability to receive that service”.

121. But according to the lawyers you could have got it had you—?

(*Sir Kevin Tebbit*)—Had we not kept them on Lynx in order to keep that fully effective.

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[Continued

[Mr Rendel Cont]

122. And the £8 million you are still claiming is the original cost. I think you said something about getting £2 million back?

(Sir Kevin Tebbit) No. The £2 million was the claim against ATIL for the late delivery of the full mission simulator.

123. And that has not affected any of the other costs?

(Sir Kevin Tebbit) Well, the late delivery of the full mission simulator has been probably the longest delay of anything in the whole episode.

124. But that is nothing to do with the wasted training?

(Sir Kevin Tebbit) Not the maintainer training, no. The full mission simulator is pilot training.

125. But you could claim the cost of the storage?

(Sir Kevin Tebbit) We were advised we cannot claim the cost of the storage.

126. Why not?

(Sir Kevin Tebbit) The aircraft have been delivered to us as per contract from Westland and therefore we have no grounds for claiming against Westland. That is a different contract.

127. But against the failure to provide the simulator?

(Sir Kevin Tebbit) But that is not Westland Helicopters. The failure to provide the simulator is a company called ATIL—

128. And why can we not claim against them?

(Sir Kevin Tebbit) Because it is a different contract.

129. But it is a consequential cost. Why did it not go into the contract with ATIL? The consequential costs for any delays would be paid by ATIL. I thought this was what “transfer of risk” meant under a PFI contract?

(Sir Kevin Tebbit) No, because you cannot vie between two completely separate contracts in that way. One was for delivering aircraft which was with a separate company and a straightforward contract; the other was for training—

130. Are you telling me it is not legal to put into a contract that if the contract is not fulfilled then consequential costs would have to be paid by the people who do not fulfil the contract?

(Sir Kevin Tebbit) Not at all, that is quite normal, but the contract we had with ATIL provided for liquidated damages but only to the cost of £2 million. We could I expect have sought a much higher liquidated damages figure but then the total contract cost would be—

131. Now, we are getting to the nub of it. What more would it have cost you if you had had a higher liquidated damages figure, because it sounds like the liquidated damages figure you put into your contract was so low, something like £2 million, that you had not covered anything like the eventual costs as a result of the consequential—

(Sir Kevin Tebbit) That is perfectly fair. I do not know what the options were. Can I ask Mr Fauset to come in, who is the contractual expert?

(Mr Fauset) We tried to get a lot more than £2 million. ATIL would not accept LDs above £2 million. I suspect if we had tried and won it would have been added on to the cost of the contract. That is the normal way LDs work.

132. The point I am trying to make is whether these risks were then taken into account. Were the risks we had not been able to transfer because ATIL had refused to allow us to put in liquidated damages, or we would have paid more in that case, taken into account when you were comparing the PFI contract cost with the public service comparator?

(Sir Kevin Tebbit) I have to take us back to the period in 1997 when these contracts were being negotiated and put in place. It was probably the second PFI contract that the Department did, or third, but very early. There had been and still has been a prior PFI training contract for pilot training for support helicopters, medium helicopters, which was successful and still is very successful so we approached this contract with the expectation that it would go well. We did not anticipate at the time that there would be these problems with the full mission simulator, these problems with the image generator that were central to this difficulty. These arose subsequently and only became evident not just on this contract but on many others as a sort of generic problem in image generation in 1998–99. At the time we were negotiating the contract we had no experience or reason to expect that there would be a problem of this kind. I suspect that was one of the central reasons why we were not pushing hard for a much higher liquidated damages figure.

133. You have given a long explanation of what happened but you have not told me whether the extra risk you were keeping on because you could not get it into the contract was taken into account when you compared the cost of the PFI against the public sector comparator?

(Sir Kevin Tebbit) What I am explaining is that we did not anticipate that risk and therefore we could not have taken it into account at the time, because this is with the benefit of hindsight.

134. Right. Can you very quickly run through the £80 million savings you think you have had? I got the £25 million.

(Sir Kevin Tebbit) The training PFI was regarded as £23 million beneficial on NPV terms. We are not paying for the service we did not get on the full mission simulator; we have not paid the £17 million that they were expecting us to pay.

135. Is that going to have to be paid eventually?

(Sir Kevin Tebbit) No, because we have not had the service set out.

136. But you are going to have to use the simulator eventually to train the pilots?

(Sir Kevin Tebbit) We certainly will, yes.

137. Will you not then have to pay for it?

(Sir Kevin Tebbit) We will be training pilots at a slightly faster rate through the simulator. I described this business of how we will only do 20-weeks on the simulator and get a higher usage from the simulators as a result, so it would not necessarily go on to the end.

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[Continued

**[Mr Rendel Cont]**

138. But presumably we would have done that if we had had the simulators sooner too. That is a saving that should have been made whether we had the simulators on time or not. You cannot claim that as a saving—

(*Sir Kevin Tebbit*) It is a 30-year PFI deal so it is not a question of adding it on at the end. We make a continuous stream of payments when the service arrives.

139. It sounds to me a bit fishy as a claim of saving, but carry on.

(*Sir Kevin Tebbit*) I do not think it is fishy but they have not had that money and they were expecting it. Of liquidated damages we received £2 million. Our courseware claim is £8 million—

140. That is assuming you get that claim?

(*Sir Kevin Tebbit*) And we also separated out munitions from the prime contract as well—we dealt with that separately again successfully—so there was a £30 million saving there as well. In terms, therefore, of hiving off elements—

141. Can you explain that £30 million a bit more? That has come as a result of the simulators being late?

(*Sir Kevin Tebbit*) No. It has come as a result of hiving off the munitions aspect from the prime contract. We hived off the training and did that through a PFI—

142. Why is that anything to do with the difference between a PFI contract and a public service comparator?

(*Sir Kevin Tebbit*) I am not saying it is.

143. It is a saving you would have had anyway?

(*Sir Kevin Tebbit*) By hiving it off.

144. So that £30 million is not part of the comparison between the two systems, so your real savings as a result of using PFI system and having a late simulator are £80 million, even if you include the £8 million which is currently only a claim and what I regard as a slightly odd saving which is just putting off some of the pilot use of the simulator against the extra costs of PFI of £58 million?

(*Sir Kevin Tebbit*) Yes, indeed.

145. That sounds to me like you did not in the end get more savings than you had costs. In fact, the costs are rather more than the savings?

(*Sir Kevin Tebbit*) It is a rough balance I have done, and I do not claim it to be any more than that. Some of the timescales are slightly different.

**Chairman**

146. Do you want to do a note on this?

(*Sir Kevin Tebbit*) Well, I think it is a bit unfair because this was a very general statement I made in my head. I would say, however, the costs are all today's costs—the £58.5 million. The savings I mentioned often come from earlier data and therefore probably understate the extent of those savings.

**Mr Rendel**

147. Can I ask you perhaps just one final question then which, in a sense, sums the whole thing up, I guess, as to the worries I have about this whole deal? If you had known at the time you signed the PFI contract about the delays that have taken place since, would you still have gone ahead with the PFI, or gone with the public sector?

(*Sir Kevin Tebbit*) The delays have nothing to do with PFI but have to do with other things. The problem of developing the full mission simulator is nothing to do with PFI.

148. Well, it has been part of the—

(*Sir Kevin Tebbit*) No, it is nothing to do with it at all. The full mission simulator would have been needed whether we had gone PFI route or any other. The difficulties encountered in that were about software hitches primarily on the image generator—

149. But it has caused some extra costs?

(*Sir Kevin Tebbit*) But it is nothing to do with the PFI.

**Chairman**

150. I do not think we are going to get much further on this.

(*Sir Kevin Tebbit*) But it is a very important point: there has been no evidence whatsoever to suggest that the PFI contract caused any delays in the service arriving. In fact, rather the reverse.

**Chairman:** Thank you. It is now a great pleasure to welcome a new member to this Committee, Mr Siôn Simon, for his first round of questioning, but I am afraid the rules of the House require me to ask you, Mr Simon, if you have any other interests apart from those already circulated to the Committee?

**Mr Simon:** I do not. I do hope you, on behalf of the Committee, will accept my apology for the apparent discourtesy of being half an hour late to my first meeting. All I can say is I hope it is not an indication of my forensic attention to detail that I thought it started at 4.00! I will try and do better next time.

**Chairman:** You are very welcome.

**Mr Simon**

151. Thank you, and I trust the assembled Knights and Generals will be gentle with me on my first time out. Going back to paragraph 2.19 which Mr Davidson was talking about, I am quite interested in the question of affordability, or whether contractual terms could not be agreed. They are obviously linked but in a sense they are quite different.

(*Sir Kevin Tebbit*) You mean the reason for going for the PFI and the training?

152. Was the reason for removing the training element from the contract affordability, or because you just could not get agreement?

(*Sir Kevin Tebbit*) It was both but perhaps Mr Fauset can describe the details.

(*Mr Fauset*) We were in the fortunate position following the competition for the aircraft of having six bids on the table and each of them contained an element for training. We therefore had some benchmarks against which to judge what the Apache

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solution training was going to be. The bid that came in from Westland for training was very much higher than the benchmark bids that came in from the other contractors. We therefore did not feel it was value for money, and we started some negotiations with Westland to try and get their bid down. We managed to get it down a certain amount but not down to the benchmark figure. In parallel with that we were starting to see the benefits coming through of the medium support helicopter PFI training package and so our attention then turned in parallel to the negotiations with Westland to see if we could prove value for money from a PFI and that is when we started doing the comparisons, and the costs that we used in the comparison was the figure that we got Westland down to, not their original figure. By doing that comparison we found on NPV terms that the PFI route was £23 million cheaper.

153. And if you had to make exactly that decision again, knowing what you now know and with the benefit of perfect rear view wisdom, would you make the same decision again—I do not mean on principle but in terms of the technicalities of the decision? Would you be likely to go for the same bid with the same supplier at the same price?

(Sir Kevin Tebbit) I think we would probably make the same decision again. The difference now is that we would realise how long it takes to resolve the software complexities of bringing into service such a very complicated simulator as this one, and therefore we would plan for a longer period of development of the simulators and therefore would have reorganised our programmes so as not to be in the position of having aircraft delivered before having pilots trained to fly them. In other words, it is not a PFI issue.

154. I do not for a moment think it is—

(Sir Kevin Tebbit) It is a problem of developing the technology.

155. It strikes me as a competence issue more than a PFI issue but, putting the same question slightly differently, do you believe that from that point in March 1996, had you done anything differently, it would have been possible to avoid these massive delays and cost overruns?

(Sir Kevin Tebbit) Not cost overruns for the aircraft but cost overruns—

156. For the taxpayer?

(Sir Kevin Tebbit) Cost overruns in the sense not so much of costs but delay in getting Apaches into service, which has been the real issue. If we had known, as I say, how long it would take to develop the system, we would have built that into our overall timetable.

157. Would you just have extended the timetable?

(Sir Kevin Tebbit) No, we would have tried to negotiate more quickly. It did, frankly, take two years to put in place aspects of this deal which I think we would have hoped to have done more quickly now. Understanding that that was the main issue, and also understanding that it takes longer to train pilots than we assumed it was going to when we started. It is easy with the benefit of hindsight and having learned these lessons subsequently but we could not have predicted them at the time, I do not think.

158. Pursuing that, in process terms when you are talking about learning lessons and what you could and could not have predicted, have you done an exercise examining the processes that led to these decisions and how, effectively, the decisions were taken and what lessons could be learned? Have you done a formal exercise to examine those in order to try and minimise the chance that these kinds of misalignments might happen again?

(Sir Kevin Tebbit) I cannot say we have done a formal exercise on this particular case. We always look at all of our projects and do a post project review and I am sure a post project review has been done in this case by the Defence Procurement Agency.

(Mr Fauset) It will be done. It has not been done yet on this particular programme but certainly some of the individual lessons learned from this programme have been read across to other programmes, particularly the time it takes to negotiate a PFI deal.

159. On a slightly tangential point, I am new so this is probably a really stupid question but it is one that intrigues me: why does it cost £6 million to keep a few helicopters on an RAF base for a few years?

(Sir Kevin Tebbit) They are not being mothballed or anything; they are being kept in the right temperature and the right storage conditions; they are being maintained and looked after as they go along; some of them are being converted—

160. If they are not being used, how much maintenance do they need? I am genuinely fascinated because it seems like an awful lot of money just to keep them in a shed.

(Sir Kevin Tebbit) They have to be kept in prime condition and checked regularly, so there is manpower involved in keeping them going. Once a week they have to be gone over. These are highly sophisticated and very expensive systems.

161. But they must be being gone over by David Beckham to cost £6 million?

(Sir Kevin Tebbit) I can assure you that is what it cost. That is over a six and a half year period, or the total period I gather was six and a half. The first aircraft were delivered to us in January 2001.

162. It is July 2002 to January 2006, but that is not important.

(Sir Kevin Tebbit) I am sorry, they were in one place and some have been moved to another. I think the figures you got were about Shawbury, but there were some in different locations to start with.

163. It strikes me there is a kind of theme—and it is particularly in paragraph 2.24 but it comes up several times—in the sense that nothing can start until the previous process is finished and that the training and process of all this is linear, and we have to complete phase one and then when that is done we get phase two. Is the idea that we have overlap, and that training people in advance and doing things in advance is a thematic weakness in the way the Department thinks, or is it just the way the Report is presented or what?

(Sir Kevin Tebbit) No, I do not think it is at all. As the National Audit Office have said in their Report, the Department has responded very flexibly to

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changing circumstances. What you are referring to is what I mentioned earlier: that because of questions of safety, we do not allow pilots to start on the aircraft themselves but on the simulator. It is just too dangerous to do it any other way and far too expensive, and therefore we had to wait for the simulator to be ready before we could get the training going. We did send a small number of pilots to the United States, the instructors, and that has proved beneficial though it was quite expensive. They came back and were responsible for the recommendations which led to an alteration in the length of the training course so that was helpful and was happening in parallel with the other activities, but clearly when you are running a complex project like this there is no doubt you do have to proceed in phases. I suspect that is the key you are looking for but I am not saying that we thought we would give them a bit of flying and put them back in the simulator. We insisted on doing the simulator first.

164. Finally, why was not conversion to role training included in the ATIL contract?

(Sir Kevin Tebbit) Conversion to role is done by the armed forces themselves. Role is what you do on the battlefield as opposed to learning to fly the aircraft, and therefore that is properly a military function performed by the armed forces linking to the various other arms that the aircraft are flying with, rather than something that can be done separately as an aircraft.

165. And that is never subcontracted? It is always done in-house?

(Sir Kevin Tebbit) No, because that is core military business.

**Chairman:** Thank you very much. We now have one or two questions to wrap up.

#### Mr Osborne

166. I was wondering whether, given the benefit of hindsight, it would have been better to have just bought the American equipment lock, stock and barrel and the American training rather than try and develop a British version of the Apache, and although you will tell me there were the advantages of a better engine and the defensive aid suites and so on, there also would have been huge advantages of cost and you would not have had some of the delays you have had if you had just gone for the American kit. This is a big procurement issue generally. What is your view on that?

(Sir Kevin Tebbit) The official recommendations were to go rather more closely to the American system but it was a political decision to procure the Rolls Royce engines. They do give greater power and flexibility, and they are better in extreme circumstances of temperature and light. They are a better engine. But had we procured the American engine with the American aircraft we could have had a slightly easier run. We would not have avoided the long pole in the tent, the problem with the flight mission simulator, nor would we have avoided the issue of the length of training we believed to be necessary, but we might have got the aircraft a bit faster although that could, of course, have made it even more of a mismatch.

167. Could you not just have taken the American simulator?

(Sir Kevin Tebbit) They had trouble with theirs, too. I should have mentioned that the American Longbow simulator was 18 months late as well. When I said this was a generic problem, cracking these simulator difficulties, I meant it. It is not incompetence by the United Kingdom, Mr Simon; it is also a problem about simulators.

168. Funnily enough, I had a conversation with the former defence secretary who procured this who said there was an enormous Cabinet row about it all, but he also said the official advice at the time was to go for more of an American aircraft than a British.

(Sir Kevin Tebbit) I did not quite go that far but you have made my point for me. May I say that we did several changes—it was not just the engine. We did put defensive aid suites in our own which, frankly, we think is pretty good. We have our own communications suite and our own IFF system, so there are a few other things that we do believe were necessary, and when that is all converted back into the software and the sensors it does add to the complexity, I agree. I would not want you to think it was just the engine but that was the critical bit.

169. Finally, what effect will Apache have on the use of armour in warfare and future use of tanks? We had an interesting talk at Middle Wallop about this but presumably this is going to change the way the Ministry of Defence thinks about the future procurement of things like battle tanks?

(Sir Kevin Tebbit) We supervise this through what we call the air manoeuvre policy group, and they are evolving training and doctrine and concepts as they go. It will be part of a transition to more flexible mobile forces generally. We will see fewer heavy tanks and more agile vehicles; we have a project called FRES (Future Rapid Effects System) which will be the successor to the tank—it might look a bit like a tank but is different—so the battlefield is becoming more mobile and more agile, and Apache is one of the first systems to be introduced in that way. As the General said, network enabled capability means you can cover much more ground with fewer systems much more precisely than before and coordinate them, because of these sensors and communication systems, much more rapidly. It does not mean the tanks disappearing yet and we are rather pleased that we are some of the first people to get a really powerful anti-tank capability, but it means that tanks have got less superiority on the battlefield. You will still need systems to take space on the ground so you will always need some ground-based rapid systems, but FRES which is a lighter more active system is quite likely, so it promotes a change. It does not remove the role of tanks entirely but it will require the ground battle to be more manoeuvrable as well, otherwise systems like Apache will make quite short shrift of conventional armies.

(Major General Figgures) To make the emphasis, the balance of forces, the shape of our forces, will change to reflect these different capabilities but we should never forget that, in the final analysis, the enemy is closed with and killed with a bullet and the grenade, and to enable the infantry to close with the enemy they require some form of direct fire support that can take advantage of fleeting targets in complex

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[Continued

[Mr Osborne Cont]

terrain. The question was mentioned earlier of the Apache providing close-fire support, which was an opportunity but it would not be the ideal way in which you put a complex platform like this in harm's way. You would create the conditions where this mobile, protected, direct-fire support enabled the infantry to get in with the opposition, remove them from the position and secure the position. So the all-arms nature of combat will remain; it is just the balance of the means will change.

#### Mr Rendel

170. Having had a chance to review the figures since I finished my questioning I am fairly confident that we would, as taxpayers, have ended up paying less had we not gone down the PFI route on this one, and therefore we should insist, if we may, insist on having a proper note from Sir Kevin on this giving all the costs applicable to the PFI contract, including the things that have gone wrong since, and the savings he believes the PFI contract made so perhaps we could have that.

(Sir Kevin Tebbit) I do have to take issue with Mr Rendel—

171. You can take issue in the note, if I may say so.

(Sir Kevin Tebbit) Well, if I may say so, the extra costs were because of the difficulty of getting the flight mission simulator in place, not because of going down the PFI route.<sup>1</sup> Those penalties would have been around anyway, most of them as a result of delay caused by the flight mission simulator and the decision to extend the training patterns.

172. We may differ on that one but may I just ask for a note for the time being? Arising from other questions, why is there still any dispute over who owns these £15 million worth of spares? If we bought them, they are presumably ours?

(Sir Kevin Tebbit) It is a relatively small issue. The company said some of those spares are theirs in relation to different functions other than this contract. We believe they are all ours.

173. So have we got them? Are they in our storage areas?

(Mr Fauset) Some of these are at Westland's plant.

174. Why do we think we have got them? Have we paid for them?

(Mr Fauset) There are three sources of these spares.<sup>2</sup> One is on our contract; one is on the production contract where they built up spares which they have not used on the production line so there are some surplus spares there; and the other is because they were taking risk on the repair contract there are some spares there which they took at risk—so there are three sources of these spares. What we are doing at the moment with the company is attributing these spares to the particular contracts. I think we are going to get £15 million. My advice would be to

assume it is £15 million. The problem at the moment is which spares to attribute, and that is an exercise going on at the moment.

175. It sounds to me as if we have not been doing a count, a stocktake, as we go along if we come to the end of the process and still have to go back and see which spares are which and which are attributable to which contract. I would have thought that should be clear in the stock-takes we have been doing all the way through.

(Mr Fauset) We are confident, and that is why I am saying I think it is going to be £15 million.

176. So your stock records all the way through show all this £15 million worth as being ours and having been paid for, and you can prove that? I hope you can! Secondly, Sir Kevin, I think you said that one of the reasons why the US pilots can be trained rather more quickly on the Apaches than the British pilots is because they have previous experience?

(Sir Kevin Tebbit) Indeed.

177. Surely we should have known that at the time we started to decide how long it was going to take to train our pilots. I would have thought it was fairly obvious, if you had been trained on a similar system, it would not take quite so long to train on the new system.

(Sir Kevin Tebbit) That is a perfectly reasonable statement. All I can say is Westland advised the Department that it would take 15 weeks at a point where we had no experience of Apache and took that as a working hypothesis. It was only subsequently when we started putting our own pilots on the US courses that we realised the differences, and that is the answer.

178. So they advised you on the basis that they could train pilots as quickly, even if they had no previous experience, as the pilots they were training who had had previous experience?

(Sir Kevin Tebbit) I have to conclude that to be the case.

179. That is pretty awful advice. Do you have any means of getting back at them for the cost of that? You paid them a cost, or will be paying them a cost, based on some appalling advice which you can now prove was quite clearly bad, or based on false assumptions?

(Sir Kevin Tebbit) I do not think that bit was pinned down as part of the contract, frankly. That was just the assumption that was made.

180. So again, sadly, we have lost out by not getting something in the contract which maybe we ought to have thought about in advance?

(Sir Kevin Tebbit) It is always easy to do this with a bit of hindsight.

181. That is why it is so nice being on this side of the PAC and not your side!

(Sir Kevin Tebbit) I think we are perhaps underestimating just how different the Apache is from previous helicopter types, and when these massive leaps in technology and innovation come in, often it is quite difficult to grasp fully all the implications at that stage.

<sup>1</sup> Ev 20

<sup>2</sup> Note by witness: There are two sources for these spares, not three as I said in my evidence. One is the main aircraft production contract and the other is Westland's Private Venture risk stock.

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[Continued

[Mr Rendel Cont]

182. But presumably Westland should have been able to grasp this because they would have had to train the original American pilots on the Apaches when they came in?

(Sir Kevin Tebbit) Westland did not, of course. Boeing would have been doing that in the United States. May I say we have learned a lot on this as we have gone along, inevitably. We now have an air manoeuvre policy group which looks at all the lines of development, as they call them in the army, whether it is training, manning, organisational or doctrinal issues, to bring into effect this very complex system, but five or six years ago the world did not look this complicated.

184. Yes. A note on how you see future helicopter systems being procured as intended would be helpful too, and build on your experience with this particular platform.

(Sir Kevin Tebbit) There are two major projects in train, so I would be happy to do so.<sup>3</sup>

185. Thank you. May I thank you for coming before us, gentlemen, and may I particularly thank you, Sir Kevin, because we appreciate this is a very busy time for you and we are very grateful that you have managed to spare the time for coming to see us.

(Sir Kevin Tebbit) Thank you.

<sup>3</sup> Ev 21

### Chairman

183. Sir Kevin, thank you very much for coming before us. Perhaps you might do a note—

(Sir Kevin Tebbit) I am happy to do so about the PFI.

### Supplementary memorandum submitted by the Ministry of Defence

*Question 171: (Mr Rendel) Costs and savings as a result of using a PFI contract as opposed to a conventional contract to meet training requirement.*

1. Apache aircrew, groundcrew and maintainer training is provided as a service under a PFI contract with Aviation Training International Ltd (ATIL) (a Joint Venture between Westland Helicopters Ltd and Boeing). This route was chosen because the training element of Westland Helicopters Ltd's (WHL) original tender for the Apache weapon system prime contract was not considered value for money.

2. A PFI service solution was assessed and determined to offer significantly better value for money. The Net Present Value (NPV) of the PFI bid at contract award in 1998 was £260 million, a saving of £23 million against the Public Sector Comparator (PSC).

3. The delivery of aircrew training was delayed by software problems in the Full Mission Simulator (FMS). These problems, being technical in nature, would have occurred whichever contracting route (PFI or conventional) had been chosen. However, the PFI approach (only paying on service delivery) gave the contractor a particularly strong incentive to resolve the problems speedily, probably more so than under conventional procurement (which customarily uses milestone payments). Because of the delay to the FMS, the Department received liquidated damages of £2 million (the maximum permitted under the contract) and did not pay for £17 million of aircrew courses that could not be delivered. Costs of storage (£6 million), running on the Lynx TOW system (£13.5 million) and training in the USA (£3.5 million) were incurred, but these were due to the technical delays to the FMS rather than our choosing the PFI route. The time taken to conclude the PFI contract caused delay but (given that the training element of the original WHL bid did not deliver value for money) we do not know if an alternative strategy to the PFI could have been concluded any earlier.

4. At the time that the PFI contract was placed with ATIL, it was recognised that there was a dependency on the MoD to deliver course material (that would be supplied to us by WHL under the prime contract) to ATIL. However, the MoD obtained an undertaking from WHL to reimburse us in the event of and to the extent that any costs arise by reason of, lateness, failure or inaccuracy in the courseware attributable to WHL. In the event, Maintainer Courseware was delivered to the MoD late by WHL, and the Department had to pay ATIL £34 million for Maintainer Courses that could not be provided because we had not delivered the courseware. However, the Department has lodged a claim for £8 million against WHL in respect of these payments to ATIL. The £8 million represents the value of those courses that we could have taken had courseware been available. Our legal advice is that we cannot claim for the balance, as we would not have taken the courses anyway. This was due to the delay to the FMS, which meant that pilots would not be trained, aircraft would not be flown and, therefore, aircraft would not need to be maintained. We could not have taken the courses because the maintainers, who would have been put through the courses, had to be retained on maintenance of the Lynx fleet.

5. It should be noted that the figures quoted above are not all at the same economic conditions; any deduction from these figures of the net saving/cost of adopting the PFI route should carry that caveat.

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*Question 184: (Chairman) How the Department sees future helicopter systems being procured, building on the experience of Apache?*

6. Both recent Departmental initiatives and the specific experience of Apache will affect the procurement of future helicopter systems.

7. The application of Smart Acquisition will affect all future procurement. This has put a firm emphasis on identifying and reducing risks up-front. The Concept and Assessment phases consider carefully the options for delivering the required capability and their associated costs, benefits and risks. This includes an assessment of the options for contracting and how performance can best be incentivised whether on one contract or between many. The end result is to reduce risk to a level consistent with delivering acceptable performance, to time and to cost. What risks remain should be assigned to the party best able to manage them. A project will go no further until this has been done.

8. Experience on Apache has shown the clear benefits of prime contractorship. Apache aircraft were built and delivered broadly to time and cost. The ISD was achieved just two weeks later than contracted. We therefore foresee any future helicopter system being delivered, in whole or mainly, through a prime contractor.

9. Any decisions to split out, to separate contracts, elements of future requirements need to be examined carefully. Smart Acquisition encourages a full and early examination of the options and risks before any main investment decision is made. The approach to procuring the Apache's munitions was successful and would be considered again, although another armed helicopter system, in addition to Apache, is unlikely in the future. The decision to place a separate PFI contract for training would be considered for future helicopter systems. It has delivered high quality and affordable training systems with effective incentives on timely delivery. However, the time taken to lock down the PFI deal for Apache was underestimated at the time; the time needed is now well recognised on current, and for future, programmes. Also, we would seek in future, given our Apache experience (although this would apply whether PFI was considered or not), to avoid putting risk onto the Department when it is better managed by industry, eg in the delivery of courseware.

10. The use of simulators has been shown to be a cost effective means of delivering high quality training but the experience on Apache has shown the complexity and risk, especially schedule risk, in the technology used. This will be recognised for any future procurement.

11. The Defence Industrial Policy confirmed competition as the MoD's primary means of achieving value for money. Therefore, notwithstanding the data release issues experienced on Apache, we still see the US as a competitor for future helicopter systems, whether sourced direct from the USA or manufactured under licence in the UK. Opportunities for the latter will be examined for future helicopter systems. On the issue of data release, earlier agreement of project specific MOU, and on-going work on resolving this issue generally (eg through amendment of the US/UK General Security Agreement and negotiating an ITAR waiver for the UK), will resolve many of the difficulties experienced across programmes.

12. The concept of contracting for initial support with acquisition of the initial capability, and then developing longer term arrangements for sustainment, may convey certain advantages in circumstances where the capability itself is novel and there is no pattern of prior usage on which to base future requirements. However, this approach is no longer the norm. In keeping with the "whole life approach" to acquisition, projects have been directed to examine long term and innovative support arrangements as part of the acquisition package. Moreover, projects are obliged to seek, where cost effective, support provisions which provide contractual outputs of (ideally) capability or availability, or (failing that) increased contractor logistic support. This approach is being pursued throughout MoD. Flying rates feature in many of these arrangements but this is not itself a reliable output measure. Availability for and achievement of missions, for example, are more effective measures. In addition, significant elements of support (eg Post Design Services, Safety Management, Configuration management, etc) are largely independent of flying rates.

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### **Further supplementary memorandum submitted by the Ministry of Defence**

Below are answers to additional questions that were submitted by the Chairman of the Committee:

*What assessment was made by the MoD of the additional contractual and financial risks of failing to procure the fully integrated weapon system from a single prime contractor?*

1. The prime contract with Westland Helicopters Ltd (WHL) was for the procurement of the weapon system. It provided for the supply of 67 Apache helicopters and support equipment and included the qualification and certification of the weapon system including munitions. However, as part of the MOD's assessment of industry's bids, it was determined that the manufacture of munitions stock by a separate contractor posed minimal contractual or financial risk and would, in fact, deliver significant savings. This assessment has proved correct and delivered savings of some £30 million.

2. The assessment of bids also determined that WHL's proposals (within its prime contract bid) for the delivery of training for the weapon system did not offer value for money. The consideration and selection of a PFI solution bore this out, saving £23 million (in NPV terms) when compared to the Public Sector Comparator. As set out in the Supplementary Memorandum to the Committee on 27 March 2003, the PFI approach (paying only on service delivery as well as providing for liquidated damages) gave the contractor a particularly strong incentive to deliver, probably more so than under conventional procurement (which customarily uses milestone payments). However, the time taken to conclude the PFI deal for Apache was underestimated at the time.

*Why was Westland chosen as prime contractor rather than the original design contractor McDonnell Douglas?*

3. Westland Helicopter Ltd's bid was judged to offer the best value for money, of all the tenders received in open competition. McDonnell Douglas did not bid.

*Were the MoD's estimated savings of £30 million and £23 million by contracting separately the provision of munitions and the training package exceeded in the event by the extra costs which have arisen directly from the additional risks incurred by MoD in doing so?*

4. No. The overall costs and savings as a result of using a PFI contract to meet the training requirement were set out in the supplementary memorandum to the Committee on 27 March 2003. The £30 million saving related to munitions completes the picture.

*Had the training package been included in the prime contract, would not all the financial risks associated with the late delivery of the training package, including the late delivery of the simulator, have been recoverable from the prime contractor rather than resting with the MoD?*

5. Even if training had been included in the prime contract, for the reasons set out in answer to further questions below, it is not always possible to negotiate industry's acceptance of liability for all the financial risks associated with late delivery. Also, it would be wrong to say that, under the contracting arrangement put in place for the training package, all the financial risk associated with late delivery rested with the MoD. For example, with regard to late delivery of the simulator, no payments were made for courses that could not be delivered and liquidated damages were provided for; the impact this had on the PFI training contractor should not be underestimated.

*What is the MoD's policy towards the use of Liquidated Damages in its contracts?*

6. MoD considers the inclusion of liquidated damages case by case. Where late delivery would result in loss, MoD would consider the inclusion of liquidated damages to cover or mitigate the loss. In taking this approach, MoD would have regard to the foreseeable consequences of delay, the possible impact on contract prices and whether other approaches might be appropriate.

*Why is it seen as necessary to agree at the outset of any contract to limit the liability of the contractor in the event of his breach of contract in relation to the vital condition of timely delivery?*

7. A liquidated damages arrangement identifies the pre-estimate of the damage the customer will suffer if delay occurs. Therefore, it is inherent in such an arrangement that the damage payable in relation to periods of delay is stated.

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*Are the liquidated damages sums the MoD agrees designed to fully compensate the MoD financially in the event of breach of contract and, if so, how are they calculated?*

8. MoD's aim is to estimate the amount of liquidated damages at the outset, and a pre-estimate is made of the financial loss likely to be suffered by the Department in the event of a breach of contract. The actual level of liquidated damages will be the subject of agreement between the parties. The advent of Resource Accounting and Budgeting (RAB) assists the Department in the calculation of a pre-estimate.

*What relationship did the £2 million liquidated damages on the PFI training contract bear to the perceived cost of the delay in delivery of training under that contract?*

9. The £2 million damages claimed were the maximum permitted under the contract. In negotiating the contract, MoD had regard to the foreseeable consequences of delay, the possible impact on contract prices and the fact that ATIL, as a PFI supplier, are only paid for services delivered. In the event, some £18 million of planned courses could not take place and were therefore not paid for.

*Does the MoD ever seek to agree contracts without any provision for liquidated damages, relying on its common law rights in the event of late delivery?*

10. Yes. The majority of our contracts by number are unlikely to include Liquidated Damages provisions because of their relative low value (90% of contracts by number are valued at less than £100,000) and/or because they are for off-the-shelf items.

*Why is it necessary for the UK to write its own Military Aircraft Release for Apache rather than rely on, or extend, the US Military Aircraft Release?*

11. Regulation of the Airworthiness for Ministry of Defence Aircraft is covered by different regulations to those in the USA; also, the UK Apache has a number of differences from the US Apache D Model.

*Are the C17 aircraft operated by the RAF operated against a UK Military Aircraft Release or an American one?*

12. The UK leased C17s are operated under a UK Military Aircraft Release.

*What arrangements are in hand or contemplated for integrating UK requirements with the American spares and support facilities for Apache?*

13. We are actively comparing our programme with the United States' in order to identify areas for mutually beneficial collaboration.

15 April 2003