

House of Commons

Committee of Public Accounts

**MINISTRY OF DEFENCE:  
EXERCISE SAIF SAREEA  
II**

Sixth Report of Session 2002–03



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EXERCISE SAIF SAREEA  
II**

Sixth Report of Session 2002–03

*Report, together with  
Proceedings of the Committee, Minutes of  
Evidence and an Appendix*

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## Committee of Public Accounts

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### Contacts

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### Footnotes

In the footnotes of this Report, references to oral evidence are indicated by ‘Q’ or ‘Qq’ followed by the question number; references to the written evidence are indicated by the page number as in ‘Ev .....’.

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EVIDENCE (*Monday 21 October 2002*) (HC 1245-i, Session 2001–02)

## WITNESSES

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LIST OF REPORTS PUBLISHED IN SESSION 2002–03



# SIXTH REPORT

**The Committee of Public Accounts has agreed to the following Report:**

## **MINISTRY OF DEFENCE: EXERCISE SAIF SAREEA II**

### INTRODUCTION AND LIST OF CONCLUSIONS AND RECOMMENDATIONS

1. Exercise “Saif Sareea” II (Swift Sword II) was the largest deployment of the United Kingdom’s military forces since the Gulf War in 1991. Over 22,500 personnel, 6,500 vehicles and trailers, 21 naval vessels, and 93 aircraft of all types were deployed over a distance of 5,000 miles to the Sultanate of Oman in September and October 2001 to exercise with Omani forces.

2. The Committee took evidence on the Comptroller and Auditor General’s Report<sup>1</sup> from the Permanent Under-Secretary of the Ministry of Defence, the Chief of Joint Operations, and the Deputy Chief of Defence Logistics. Our Report examines three key issues:

- whether planning for the Exercise was adequate;
- the need for the Department properly to absorb the lessons from the Exercise; and
- what still needs to be done to prove the Joint Rapid Reaction Forces concept.

3. Our main conclusions are:

- **The Department’s planning of the Exercise was deficient.** In particular, because of poor information and inadequate analysis, it did not modify the Challenger 2 Main Battle Tank to operate in desert conditions. The location, time, and scope of the Exercise were subject to change, which contributed to cost escalation and acted against the achievement of value for money. Decisions were not based on the full cost of resources to be consumed by the Exercise. The Department needs to plan major exercises as projects in their own right.
- **The lessons of the Exercise should be properly applied.** The Department has made improvements to its ability to capture lessons from exercises and operations, but also needs to apply the lessons identified. The Exercise illustrated the importance of carrying out critical modifications to ensure that equipment can operate in desert conditions, and in ensuring that capability gaps, for example, tactical communications, are closed. It also revealed shortcomings in the Department’s ability to sustain forces deployed at strategic distance. The Department should review whether it has sufficient equipment to sustain the Joint Rapid Reaction Forces in all the environments in which it anticipates operating - temperate, arctic, jungle, and desert. The Department also needs to ensure that any new equipment is specified to work in the environments in which it will be needed.

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<sup>1</sup> C&AG’s Report, *Ministry of Defence: Exercise Saif Sareea II* (HC 1097, Session 2001-02)

- **Key elements of the Joint Rapid Reaction Forces concept were tested in the Exercise but more needs to be done to prove the concept in the round.** For example, the Exercise was only a limited test of strategic lift because only half an armoured brigade and no war stocks were taken. Future exercises need to demonstrate that there would be sufficient strategic lift capacity available. In time-critical situations, the Department will continue to be reliant upon the ready availability of chartered civilian sea and air assets in actual operations. The Department should explore the possibility of making agreements with civilian suppliers to provide assets when required during times of crisis.

4. Our detailed conclusions and recommendations are as follows:

#### *Deficiencies in planning*

- (i) In planning future exercises, the Department should balance the cost of modifying key equipment against that of supporting unmodified equipment in theatre. In this case, the decision on grounds of economy not to “desertise” the Challenger 2 Main Battle Tank increased the costs and decreased the effectiveness of the Exercise.
- (ii) Information gathered by the Department about likely environmental conditions prior to the Exercise was incomplete. The Department did not accept the findings of its own reconnaissance report that environmental conditions required the Challenger 2 to be modified. The Department needs to be fully aware of exercise conditions and make best use of all the information sources available in managing future exercises.
- (iii) The Department categorised climatic conditions in the hot and dusty Omani desert as being the same as those of Western Europe. The Department should review its procedures for the categorisation of climate to remove the significant overlaps that currently exist.
- (iv) Original proposals on the content of the Exercise differed radically from what actually took place. The lack of agreement within the Department from the start about its size, shape and location, and subsequent revisions, contributed to cost escalation. The Department should establish at the outset the objectives and parameters of future exercises as a firm baseline for planning.
- (v) In costing and budgeting for the Exercise, the Department counted only the additional, or marginal, costs of the Exercise. Such exercises are a crucial means of maintaining military capability, and the full cost of resources consumed should be taken into account and balanced against other calls on the defence budget.

#### *Lessons from the Exercise*

- (vi) The Exercise produced new lessons but also showed areas, such as the under-provisioning of spares, in which lessons from past exercises and operations had not been learnt. The Department has improved its processes for capturing lessons from this and future exercises. The Chiefs of Staff should monitor these processes every six months, as the database of lessons identified is updated, to ensure that they are working.

- (vii) In the event of an operation, the Department says that it could quickly modify equipment such as the Challenger 2 to operate in the desert. But the AS90 self-propelled gun will not be modified for another 12 months despite the fact that over a year has already elapsed since the end of the Exercise. The Department needs to speed up its programme of modifications to ensure that it is able to meet potential commitments.
- (viii) There are important programmes in place to enhance capability, such as those for Bowman, asset tracking, and helicopters. The Exercise reinforced concerns about the limitations of the Clansman radio system and the inadequacy of the Department's asset tracking systems. The Department needs to demonstrate that, for example, Bowman will operate in austere conditions similar to those encountered in Oman, testing rigorously that equipment specifications meet the demands of operating in extreme temperatures.
- (ix) The Container Handling Rough Terrain system in Oman was not adequately supported for overseas deployment because of limitations imposed by the contract. Contracts providing for the maintenance of all key equipments should cover deployments beyond Europe.
- (x) The Department's decision not to issue all personnel with desert equipment and boots was bad for morale and had other adverse impacts. For example, some boots fell apart and footrot became a major issue. The Department should ensure that, in future, forces sent into harsh environments are equipped appropriately.

#### ***The Joint Rapid Reaction Forces Concept***

- (xi) Important elements of the Joint Rapid Reaction Forces were not tested during the Exercise. For example, medical services could not be tested under operational conditions; and readiness cannot be effectively tested in an exercise of which the participants have many months notice. The Department should therefore look to include untested elements of the Joint Rapid Reaction Forces in future exercises to demonstrate their capability.
- (xii) The Exercise was a limited test of strategic lift, and the Department remains reliant on the availability of commercial assets. The Department needs to manage the risk of continuing to rely on the ready availability of civilian strategic lift assets. It should carry out a detailed risk assessment to examine the options fully, including the possibility that arrangements could be made with civilian operators to guarantee strategic lift capacity when required.

#### **DEFICIENCIES IN PLANNING**

5. The Department's analysis for the deployment of Challenger 2 to Oman did not examine the trade-off between the costs of modifying the Challenger 2 tank to operate in desert conditions and the logistical costs of not doing so.<sup>2</sup> In the event, air filters specified by the manufacturer to last 14 hours lasted only four hours in southern Oman. There was a knock-on effect in that the need to replenish the Challenger 2s with air filters and other consumables led to delays in supplies for other equipment

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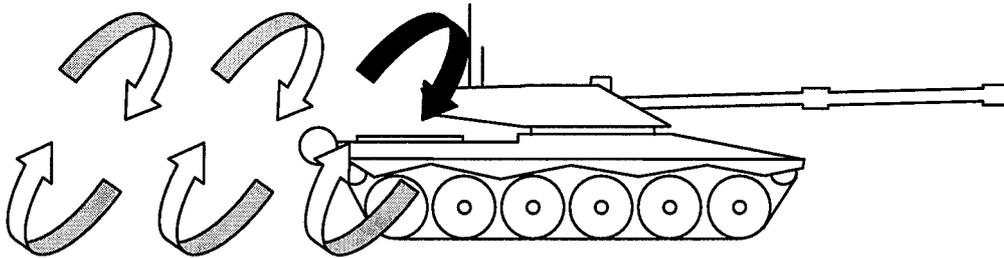
<sup>2</sup> Q 165; C&AG's Report, Figure 10

including C130K aircraft and the “B” vehicle fleet, including Land Rovers and trucks. It also led to the removal of two of the five Challenger squadrons from the Exercise.<sup>3</sup> **Figure 1** illustrates the problems experienced by the Challenger 2.

**Figure 1: Problems with the Challenger 2 in Oman**

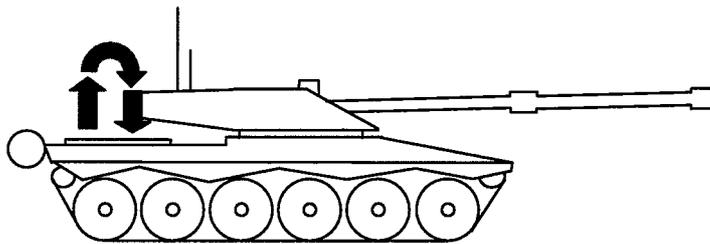
**(a) Dust and sand ingress**

Large quantities of dust and sand are thrown up by the road wheels and track of the tank. This dust and sand enters the air filters of the engine cooling system which are located on the top rear of the tank. If the filters fail, the result is serious engine damage and failure. The effect is exacerbated by the air flow behind the tank, with a vortex effect created by the forward movement.



**(b) Hot air re-circulation**

Because of the close proximity of the air intake and exhaust on the top rear of the tank, extremely hot air ejected by exhaust re-enters the engine. This is not a problem in Europe, where ambient temperatures are much lower, but it can lead to overheating problems under desert conditions.



6. The Department belatedly regretted not providing Challenger 2 with protection from the dusty conditions. It believed that the problems with the Challenger 2 fleet could be resolved by spending between £5 million and £90 million on various measures such as changing the angle of intakes and improving the air filters themselves, but it decided not to do so in the context of this exercise. Moreover, it argued that in the event of an actual operation the Challenger 2 tanks would be equipped with side armour which in itself would help to prevent dust ingestion.<sup>4</sup> The fact is that they missed an opportunity to assess the effectiveness of the side armour. It was an expensive error.

7. The Department did not accept the findings of its reconnaissance team’s pre-exercise report, which emphasised the need to make a series of modifications to equipment including Challenger 2. Nor did the Department consult the Omanis about conditions in the south of the country where the Challenger 2s would initially be deployed.<sup>5</sup> Subsequently, the Department discovered that the Omanis themselves did not exercise in that area because of the conditions there. The Department

<sup>3</sup> C&AG’s Report, Figure 10; Qq 170, 172

<sup>4</sup> Qq 12, 21, 104, 156

<sup>5</sup> C&AG’s Report, Figure 10; Qq 237, 267

could have taken further measures to test conditions, such as deploying a tank to the Exercise area to test conditions beforehand. Previous experience during exercises in Canada should have forewarned the Department of Challenger 2's problems in dusty conditions.<sup>6</sup>

8. A further factor in deciding whether to modify equipment or to issue special equipment was the Department's assessment of climatic conditions. The Department's historic database of temperatures in the Exercise region taken from Thumrait in southern Oman was unrepresentative of the actual area where most of the troops exercised. Its guidance on climatic conditions, illustrated in **Figure 2**, gives only broad definitions of the conditions that will be prevalent in a particular time and place.<sup>7</sup> In classifying climatic conditions for the Exercise, the Department concluded that the appropriate category was "A3 — Intermediate". The temperatures at Thumrait occasionally rose above 39 degrees Celsius, which is the top of the A3 band. In the event, temperatures in the Exercise area, which was about 30 kilometres north east of Thumrait, were as high as 55 degrees Celsius, and the conditions might more appropriately have been classified as A1 — extremely hot and dry. Categorisation of climate as A3 allowed the Department to issue unmodified equipment on the basis that conditions were more moderate than was the case.<sup>8</sup> This raises severe doubts about the effectiveness of the Department's climatic assessment capabilities.

**Figure 2: The Department's definitions of hot and dry climate**

Category	Applies to	Temperature Range (°C)
A1 – Extreme Hot Dry	Areas that experience very high temperatures accompanied by high levels of solar radiation, namely hot dry deserts of North America, parts of the Middle East, Northern India and South Western USA.	32–49
A2 – Hot Dry	Areas which experience high temperatures accompanied by high levels of solar radiation and moderately low humidities, namely, the most southerly parts of Europe, most of the Australian continent, South Central Asia, Northern and Eastern Africa, coastal regions of North Africa, Southern parts of USA and most of Mexico.	30–44
A3 – Intermediate	In strict terms, this definition applies only to those areas that experience moderately high temperatures and moderately low humidities for at least part of the year. It is particularly representative of conditions in Europe except the most southern parts, Canada, the northern USA and the southern part of the Australian continent.	28–39

<sup>6</sup> Q 98

<sup>7</sup> C&AG's Report, Figure 12

<sup>8</sup> *Ibid*, para 2.41

9. Decisions about the categorisation of climate and the desertisation of equipment were taken against the background of severe pressure on the Exercise budget. The Department used the same costing principles for the Exercise as it would for determining additional funding for operations. These principles are that only the additional, or marginal, costs of operations are counted, for example any additional transport costs or extra use of equipment. Other costs, such as the salaries and wages of personnel taking part in the operation, are not.<sup>9</sup> To cost exercises on this basis gives only a partial view, and can also give rise to inconsistencies between the three Services. For example, the Royal Air Force does not include cash costs for aircraft transit and aviation fuel, whereas the army includes the cost of operating armoured equipment through calculating rates for track mileage. Thus, under the marginal costing principles the Department currently uses, sending aircraft on an exercise costs little while sending armour is very expensive.<sup>10</sup>

10. Decisions on the allocation of resources within the defence budget need to be taken on a consistent and comprehensive basis. Since exercises play a key role in maintaining military capability, decisions on how much to spend on exercises need to be based on costings which are comparable with the other elements of military capability.

11. The Exercise was subject to cost escalation of £26 million, which was accounted for by revisions in policy and extra track mileage.<sup>11</sup> **Figure 3** illustrates the constituent elements of the cost escalation. There was also cost growth of £16 million, which arose because of oversights in the Department's original estimates for the cost of the Exercise. For example, the Department overestimated the amount of commercial airlift that it would need to use. This resulted in an extra cost of some £1.2 million to cover cancellation and premium rate fees when it became clear that fewer personnel would be deploying on the Exercise.<sup>12</sup>

**Figure 3: Elements making up cost escalation during the Exercise**

Element	Cost (£ million)
Exchange rates and fuel costs	3.7
Operational Welfare Package	8.8
Local leave	0.3
Medical precautions	1.5
Track mileage	11.7
<b>Total</b>	<b>26</b>

#### LESSONS FROM THE EXERCISE

12. In total, some 2,000 lessons were identified during Saif Sareea II. Obviously the principal lesson was the extent to which some equipment did not work well in hot and dusty conditions. Future decisions have to be taken on whether such equipment should be modified, or could be sustained with extra logistical support.<sup>13</sup> A number of lessons from the Gulf War also re-emerged during the

<sup>9</sup> C&AG's Report, para 3.11

<sup>10</sup> *Ibid*, para 3.12; Q 143

<sup>11</sup> Q 143

<sup>12</sup> Q 144; C&AG's Report, para 3.5

<sup>13</sup> C&AG's Report, Executive Summary, paras 7, 9

Exercise, including the under-provision of some types of spares. In order to ensure that the lessons are applied, the Department has introduced a six-monthly rolling programme to record action taken in relation to the lessons identified.<sup>14</sup>

13. An example of equipment that will be modified is the AS90 self-propelled gun. A combination of high temperatures and intense vehicle usage revealed that the heat shield placed in front of the plastic air intake filter could not prevent filter meltdown, which caused two guns to be withdrawn from the Exercise. It will take another 12 months to correct the design fault with the AS90's plastic air intake filter so as to ensure that the gun can operate in very hot temperatures.<sup>15</sup> Helicopters, which achieved only 55% availability in Oman, are also being subjected to a modification programme.<sup>16</sup> As regards new equipment, the emphasis on preparedness for expeditionary operations has led the Department to specify much broader environmental tolerances for its new equipment than it did in the past.<sup>17</sup>

14. During the Exercise, "B" vehicles, many of which are 25 years old, experienced a number of problems. For example, there was a need to keep vehicles running by turning the "cab" heater on whenever the engine overheated. The unreliability of B vehicles in desert conditions had already been identified during the Gulf War. These vehicles are however being taken out of service in 2005, and the Department has no plans to modify them in the meantime.<sup>18</sup>

15. During the Exercise, there was a shortage of functioning Container Handling Rough Terrain systems. Contractual arrangements covered maintenance in the United Kingdom and Germany only. The Department could have negotiated an arrangement with KALMAR, the supplier of the Container Handling Rough Terrain system, for contractor support in Oman, but the cost of doing so was considered prohibitive. As a result of this experience, the Department is now considering extending the contract for the Container Handling Rough Terrain system.<sup>19</sup>

16. Other lessons relate to gaps in capability. For example, tactical communications were no more secure in Oman than they had been in Kosovo.<sup>20</sup> Because of the inadequacies of the Clansman radio system, tank formations communicated by insecure hand drills prior to closing with the "enemy" to avoid cluttering the radio net. Clansman will be replaced by the new Bowman system from 2004, with the process being completed by December 2007. Meanwhile units will have to continue to compensate for its inadequacies by relying on tactics, techniques, and procedures until this time.<sup>21</sup>

17. The Department's current asset tracking systems, such as the VITAL consignment tracking system, give commanders in theatre no oversight of the assets being sent to them. The lack of VITAL at the point of exit in the United Kingdom and its absence at the point of arrival in theatre means

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<sup>14</sup> Qq 240-241; C&AG's Report, para 2.51

<sup>15</sup> Q 40, C&AG's Report, para 2.21

<sup>16</sup> Q 96

<sup>17</sup> Q 202

<sup>18</sup> Q 274; C&AG's Report, para 2.51

<sup>19</sup> Qq 129, 228; C&AG's Report, paras 2.24-2.25

<sup>20</sup> Q 7

<sup>21</sup> Q 61, 64-66; C&AG's Report, paras 2.35-2.36

that, if sent direct to a front-line unit, there is no visibility of the item until it reaches its destination.<sup>22</sup> The Department does not yet have a system in place that enables it to track land assets. Consequently, it does not know how many assets went on from Oman to Afghanistan during and after the Exercise, and whether or not these have since been returned to the United Kingdom.<sup>23</sup>

18. The Department held back quantities of personal equipment designed for the desert because Saif Sareea II was an exercise. Only small quantities of desert clothing were issued, a decision based on the belief that temperatures would not be so high. This decision generated much adverse comment from those who had not been issued with desert boots and the National Audit Office team visiting the exercise found a number of personnel had purchased suitable footwear at their own expense. Footwear that was issued to headquarters staff should not have been worn in the desert. Some boots quickly fell apart and footrot became a major issue. The Department assured the Committee, however, that it did not lack stocks of desert boots.<sup>24</sup> The Department is about to decide whether it should have 30,000 desert combat suits in stock, and is also reviewing the specification of the Combat Soldier 95 clothing to provide better protection from the heat.<sup>25</sup>

19. One regime that was not tested during the Exercise was that for cleaning and maintaining the modified SA80A2 rifle. The Department did not test the SA80A2 during the Exercise as it had already been trialled elsewhere, including a desert environment. However, the Department might have avoided some of the problems encountered in Afghanistan with the rifle if it had distributed some to units participating in the Exercise and implemented its cleaning regime there.<sup>26</sup>

#### THE JOINT RAPID REACTION FORCES CONCEPT

20. Some 50% of the Joint Rapid Reaction Forces' sea and land elements, and 33% of its air elements were deployed on the Exercise. In addition to the Exercise, lessons about the Joint Rapid Reaction Forces were being identified on operations elsewhere, notably in the Balkans and Sierra Leone.<sup>27</sup> The aim of the Exercise was to demonstrate five key elements of the Joint Rapid Reaction Forces concept. These were the generation of a medium-scale joint task force from the Joint Rapid Reaction Forces' pool; the deployment of a medium-scale Joint Rapid Reaction Forces expeditionary force at strategic distance; command and control structure; practising and developing logistics support; and practising operations to prepare forces to take part in a combined, joint task force.<sup>28</sup>

21. Certain other elements of the Joint Rapid Reaction Forces concept, such as the Nuclear Biological and Chemical Regiment, had been tested in other exercises. The Exercise could not demonstrate *rapid* deployment given its long lead-up time nor could it demonstrate anti-submarine warfare or close air support given concurrent operations in Afghanistan.<sup>29</sup>

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<sup>22</sup> Q 51; C&AG's Report, para 2.50

<sup>23</sup> Qq 147, 150

<sup>24</sup> Q 250

<sup>25</sup> Qq 67, 71

<sup>26</sup> Qq 115, 243

<sup>27</sup> Qq 5, 82

<sup>28</sup> C&AG's Report, paras 1.22 -1.30

<sup>29</sup> Qq 137, 141, 285-286; C&AG's Report, para.1.31

22. The Exercise only partially tested strategic lift. Within the limitations of the Exercise, the Department's strategic lift assets performed well. However the land and air elements of the joint task force did not deploy with full war stocks. The enhancement provided by the Royal Air Force's new C17 "Globemaster" strategic lift aircraft, which the Department has leased from Boeing, was augmented by the use of Joint Rapid Reaction Forces Roll-on Roll-off ferries. Nevertheless, the Department will continue to rely on commercially acquired assets for operations, as it did in Kosovo in 1999.<sup>30</sup>

23. The Exercise was only a limited test of medical capabilities, as resources were not scaled to a degree of effort where large casualties would be expected. Shortages of skilled personnel were nevertheless highlighted during the Exercise. For example, the Department currently relies on reservists to make good shortfalls in full time medical personnel. The Department used Dutch personnel during the Exercise, as part of its promotion of allied co-operation in medical services. It is spending some £350 million over a number of years on medical services, and some of this expenditure will go towards improving the recruitment and retention of staff.<sup>31</sup>

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<sup>30</sup> C&AG's Report, paras 2.5-2.7

<sup>31</sup> Qq 181-183

MINUTES OF PROCEEDINGS OF  
THE COMMITTEE OF PUBLIC ACCOUNTS

SESSION 2001–02

MONDAY 21 OCTOBER 2002

Members present:

Mr Edward Leigh in the Chair

Mr Richard Bacon	Mr David Rendel
Mr Ian Davidson	Mr Gerry Steinberg
Angela Eagle	Jon Trickett
Mr Brian Jenkins	Mr Alan Williams
Mr George Osborne	

In the absence of the Chairman, Mr Alan Williams was called to the Chair.

Sir John Bourn KCB, Comptroller and Auditor General, was further examined.

The Committee deliberated.

Mr Brian Glicksman, Treasury Officer of Accounts, was further examined.

Angela Eagle disclosed her interests pursuant to the Resolution of the House of 13 July 1992.

The Comptroller and Auditor General's Report on Ministry of Defence: Exercise Saif Sareea II (HC 1097), was considered.

Sir Kevin Tebbit KCB CMG, Permanent Under-Secretary of State, Ministry of Defence, was further examined, and Lt General John Reith CB CBE, Chief of Joint Operations, Permanent Joint Headquarters, and Mr John Oughton, Deputy Chief of Defence Logistics, Ministry of Defence, were examined (HC 1245-i).

A division of the House being called, the Chairman suspended the meeting for ten minutes.

The Committee resumed.

The witnesses were further examined.

\* \* \* \* \*

[Adjourned until Wednesday 23 October at Four o'clock.

\* \* \* \* \*

SESSION 2002–03

WEDNESDAY 5 MARCH 2003

Members present:

Mr Richard Bacon	Mr Gerry Steinberg
Geraint Davies	Mr Alan Williams
Mr David Rendel	

In the absence of the Chairman, Mr Alan Williams was called to the Chair.

Sir John Bourn KCB, Comptroller and Auditor General, was further examined.

The Committee deliberated.

Mr Brian Glicksman, Treasury Officer of Accounts, was further examined.

\* \* \* \* \*

Draft Report (Ministry of Defence: Exercise Saif Sareea II), proposed by the Chairman, brought up and read.

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

Paragraphs 1 to 3 read and agreed to.

Paragraph 4 postponed.

Paragraphs 5 to 23 read and agreed to.

Postponed paragraph 4 read and agreed to.

*Resolved*, That the Report be the 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 12 March at half past Three o'clock.]



# MINUTES OF EVIDENCE

TAKEN BEFORE THE COMMITTEE OF PUBLIC ACCOUNTS

MONDAY 21 OCTOBER 2002

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Members present:

Mr Richard Bacon  
Mr Ian Davidson  
Angela Eagle  
Mr Brian Jenkins  
Mr George Osborne

Mr David Rendel  
Mr Gerry Steinberg  
Jon Trickett  
Mr Alan Williams

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In the absence of the Chairman, Mr Williams was called to the Chair

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:

### Exercise Saif Sareea II (HC 1097)

#### Examination of Witnesses

SIR KEVIN TEBBIT KCB, CMG, Permanent Under-Secretary of State, LIEUTENANT GENERAL JOHN REITH CB, CBE, Chief of Joint Operations, Permanent Joint Headquarters and MR JOHN OUGHTON, Deputy Chief of Defence Logistics, Ministry of Defence, examined.

#### Mr Williams

1. I must first apologise for the absence of our Chairman: he has had a sporting accident and suffered from a rather severe ankle break so I am having to sit in the Chair today. May I welcome Sir Kevin Tebbit, Permanent Secretary, to this hearing on the Ministry of Defence and the Exercise Saif Sareea II. Would you like to introduce your colleagues?

(*Sir Kevin Tebbit*) On my right is Lieutenant General John Reith who is the Chief of Joint Operations and as such is responsible for this level of exercising and indeed for all our deployments as well as exercises. On my left is John Oughton, who is the Deputy Chief of Defence Logistics responsible for supporting these sorts of exercises.

2. Is Mr Webb here from the support group? He gave some evidence to the Defence Committee the other day in relation to his activities.

(*Sir Kevin Tebbit*) I would not expect so. I did not invite him.

3. What a pity.

(*Sir Kevin Tebbit*) He is our Policy Director who is responsible to me for policy.

4. That would have been rather interesting. It seems that the people the Defence Committee wanted were not there because you thought they would be coming to this Committee and some of the people we want are not here because you thought they were only wanted by the Defence Committee. Before we go to questions, may I welcome back to the Committee Angela Eagle and say how glad we are to have you with us again. It has probably been explained to you that we have altered our format. We normally give everyone 15 minutes for questions.

The task of lengthening answers has been made even easier for you by the fact that we are only having ten-minute sessions initially per member but there will be the opportunity to come back for the balance of the time towards the end of the session. This exercise has been something of a debacle, has it not? I am surprised you look surprised. You obviously have not read the newspapers.

(*Sir Kevin Tebbit*) If you read the report . . . I think you must not have read the report. I am sure you have read it; I know you have read it.

5. When the Chairman of the Defence Committee, who is noted for his understatement refers to a decision as being bonkers, I am inclined to think there might be something wrong and something for us to follow up on. Can you explain to us precisely what the objective of this exercise was?

(*Sir Kevin Tebbit*) The objective of the exercise was to exercise key elements of our Joint Rapid Reaction Force (JRRF), that is to say by deploying key elements of the force—around 50% of our Joint Rapid Reaction Forces for the sea and land elements, about 33% for the air element—across a distance of 5,000 miles, to be sure, once there, that it could engage in joined-up war fighting and sustain itself for a period of time at that job and then to recover those assets subsequently from the theatre. All of those elements, as you will see from the NAO report, paragraph 1.22, were achieved successfully.

6. That is very much a matter of opinion. It is very appropriate that you use the term “recover those assets . . . from the theatre”. That seems to be the precise term most of us would apply. You said that it was to exercise the key elements, which I assume

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means therefore to show that they actually worked in the environment into which they were being rapidly deployed.

(Sir Kevin Tebbit) That is correct: to demonstrate the Joint Rapid Reaction Force concept.

7. In your opinion it was successfully carried out, despite the fact that having travelled 5,000 miles the tanks seized up in four hours, your long-range guns melted, soldiers' boots disintegrated, the communications were no more secure than they were in Kosovo. Other than that everything is going well now, is it?

(Sir Kevin Tebbit) I would dispute virtually everything you said.

8. Please do. Mind you, you have signed up to this and remember all these are virtual quotes of circumstances described in the report which you accepted.

(Sir Kevin Tebbit) There are facts and there are contexts and there are interpretations placed upon them. Perhaps I could begin by doing so. I should say that this was the most arduous exercise that we could have possibly attempted and we did so deliberately. We do not try to do things easily, we try to put our forces through the most testing trials we possibly can in order to demonstrate where the points of tolerance are and where the changes are which need to be made and that is what we did.

9. If that was the purpose, why did you originally plan it for the United States of America?

(Sir Kevin Tebbit) This should not be confused with an operation, which is a very different matter. That is the first point. The second point is that you mentioned the tanks. It is true that the tanks, in part of the exercise, that is to say exercising in the southern Omani desert, experienced very high usage of air filters.

10. You used up the global supply of air filters and had to fly them all in.

(Sir Kevin Tebbit) We did not.

11. It is in the report.

(Sir Kevin Tebbit) May I please answer your questions? We did not use up the global supply. I am afraid that there is a word in the report which qualifies that. We never used up the global supply of air filters; at no stage did we run out of air filters globally. That is the first point. The second point is that the manufacturer reckoned that in virtual blackout conditions the filters would last for 14 hours. We found that in the southern Omani desert, not in the northern exercise zone, they were used up after four hours. We have now learned the lesson that if you exercise in the southern Omani desert you need an awful lot of air filters. That is the lesson which was learned; it is a very important point.

12. So it is like the leaves on the track: it was the wrong sort of sand.

(Sir Kevin Tebbit) Nothing at all like that. If you do that, you use up the air filters more rapidly. The answer is of course either to increase supplies of air filters, which we now have, or not to exercise in the southern Omani desert, which interestingly we have now found even the Omanis do not try to do. We took the hardest test we could possibly find. Third, we chose not to put additional protection on our

tanks when we did the exercise. That was a judgement made by the exercise planners for cost-effectiveness reasons. You always have to balance operational needs, finance and exercise arrangements when you are going forward in these sorts of things. They took the judgement based on their understanding of the conditions they would find that it was not cost-effective to have the necessary protection to reduce dust on the tanks. In the light of the experience of how quickly these were used up, they probably made a wrong call, but the rectification is very simple. Had these tanks been going into operations, they would not have been deployed in the way that they were. For one thing they would have had up-armour on the sides, we would have increased the level of armour. That in itself would have reduced the dust ingestion and would have eased the problems. There are several other things that we can do to the tanks to solve this problem, very simple things, but they do cost money. If we wished to spend between £5 million and £90 million, we could deal with these problems very quickly. It is a straightforward cost-effectiveness issue; it is not an issue of capability of the tanks. That is just on the tanks.

13. Just as a matter of interest, on the recommendation which was originally made it was going to cost you about £20 million to carry out desertification. How much has it cost you to undo the damage which has been done to the vehicles?

(Sir Kevin Tebbit) They have not been damaged at all; they have not been damaged.

14. They have not?

(Sir Kevin Tebbit) No.

15. So it has cost you nothing.

(Sir Kevin Tebbit) What happens is that the air filters get clogged and in the south Omani desert they got clogged after four hours; in the north it was not as bad as that. You then change the air filter. Nothing mechanical was damaged in the tanks at all; there was no damage at all.

16. If you are going to carry out an exercise in Oman—

(Sir Kevin Tebbit) You do not want me to answer your other questions. I am happy to come back to them.

17. Do not worry. According to the report there is a tank I have not heard of, the Omani Challenger 2. I assume this is a Challenger 2 designed to work in Oman, or is the title somewhat misleading?

(Sir Kevin Tebbit) No, you are quite right, the Omanis procured the tank.

18. So they have a tank which works out there.

(Sir Kevin Tebbit) Ours work.

19. Hold on. Did it not occur to you to ask them anything about the problems of operating in their country? It seems fairly basic to know a little bit about different types of sand. I seem to remember that President Carter used helicopters to fetch hostages way back in history in Iran.

(Sir Kevin Tebbit) This was not a lack of knowledge, this was a judgement made on the basis of cost-effectiveness, using what proved to be an inaccurate judgement about the speed at which air filters were used up based on what the design

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authority told us would happen. That was incorrect, we now know what the facts are and we shall act accordingly. You are quite right, when the Omanis bought their Challengers, they did put extra modifications on them, or had them put on, which eased this problem. I might say that they do not exercise in the southern desert, which we did, which was the real problem, but that is beside the point. I do not want to get into the wrong kind of dust or leaves on the line issues which you raised.

20. I am not surprised you do not.

(Sir Kevin Tebbit) I do not want to try to make that sort of excuse because the fact is that they did clog up very rapidly in those conditions. It was always open to us to make the modifications that the Omanis had on their tanks. We could have done so at the outset. It is not difficult to do it, it was just a cost-effectiveness judgement for an exercise. We are still satisfied that we exercised the tanks thoroughly and got all the training value we required for the JRRF out of the exercise as far as the tanks were concerned.

21. Are you saying that had it been a rapid reaction real situation the tanks would have been ready, or would not have been ready? I assume they would not.

(Sir Kevin Tebbit) Had it been a real operation, they would have deployed with side armour enhanced. I do not want to go into too much detail.

22. How long would that have taken?

(Sir Kevin Tebbit) That would have been automatic. We hold the stocks, but we decided not to put them into the exercise in that form because we could have faced a real-life operation concurrent with the exercise and would then have needed them, so we judged. As I said at the beginning, one of the fundamental issues here to understand is that we have to balance what we did in an exercise with what we do in operations and cost-effectiveness throughout. Throughout the exercise those judgements had to be made. If this had been going to war, we would have gone with whatever it took to win. Since it was an exercise, we balanced it against other operations and cost.

23. Have you managed to sell many Challenger tanks since this report appeared?

(Sir Kevin Tebbit) No, I do not think we have sold any more Challenger 2s to the Omanis.

24. It was not a bad advertising programme you could have had, was it?

(Sir Kevin Tebbit) It is a very fine tank.

25. I am sure it is. It just does not work in the desert, not if it gets into the wrong bit of desert.

(Sir Kevin Tebbit) I am clearly not succeeding in getting the facts across to you. May I ask the general to do so?

(Lieutenant General Reith) May I start by saying that I was chief of staff of the British division during the Gulf War and I do know the difference between different types of sands because we had the same problem then.

26. You should have told him.

(Lieutenant General Reith) No, no. The point is that during the Gulf War we had Challenger 1 and this is Challenger 2 and it is a completely different

tank. As a tank it is outstanding. It has probably the best turret system of any tank and in terms of accuracy of fire is far better than any others around.

27. That is great, but if it cannot move it is no good, is it? If it is stuck there in the middle of the sand it is not much use.

(Lieutenant General Reith) It was not stuck there, in fact we completed something like 70% of the training with all the squadrons. I made the judgement then, because we had found that the air filters were not making the specification—four hours instead of 14 hours and therefore obviously more than three times the number being used up—that rather than have an embarrassment when we were doing demonstrations with the Omanis at the end of the exercise, because part of the value of this exercise was for defence diplomacy purposes and we had all the ministers and chiefs of defence of the Gulf Cooperation Council attending the demonstrations at the end, I made sure that every single one of our tanks which were on the demonstrations completed the demonstrations with no problem whatsoever. It was a judgement call and the fact was that the only reason we were not able to use the Challengers throughout the whole period of the exercise was because we ended up with a much greater demand on spares than we had originally planned for. When it comes down to dust mitigation, I should say that I was the sponsor of the trial for up-armouring Challenger 1 and what we find is that when you put appliqué armour onto the sides of the tank, it actually has a suction effect which drives the dust out from behind the tank rather than allowing the dust to swirl over the engine.

28. Yes, it says that in the report. I understand that.

(Lieutenant General Reith) Since Saif Sareea II we have further trialed Challenger 2 in Canada with the appliqué armour on to check that is still correct for Challenger 2. We have had a valuable lesson, we have rechecked it and we are satisfied that the ingestion is reduced remarkably.

29. Canada is an appropriate place to test it.

(Lieutenant General Reith) It is a dust test.

30. It has the same dust as Oman, does it?

(Lieutenant General Reith) It varies in the same way that Oman does.

31. You got into the same sort of trouble with the self-propelled gun, the AS90. There was a flaw in the use of the self-propelled gun. I think each gun cost about £1million.

(Sir Kevin Tebbit) Yes.

32. One million pounds each and all because the department says that the heat shield placed in front of the plastic air intake filter could not prevent total meltdown, which caused two guns to be withdrawn. "This was not a design fault because the original design stipulated thermally-stable plastic tubes". Where did they go? Did someone steal them?

(Sir Kevin Tebbit) This is simply a question of the heat of the Omani desert. This was a heat problem.

33. But they were stipulated to be thermally-stable tubes. Where were they? It says this in the report you have signed up to, "This was not a design fault

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because the original design stipulated thermally-stable plastic tubes". Did the department take that out of the specification when the order was placed?

(Sir Kevin Tebbit) I cannot answer that question.<sup>1</sup>

34. Someone must be able to. It is quite important. You have signed up to it. You know it cost £1 million in each case. Why was it not there if it was in the original design specification? Is there anyone in the Ministry of Defence to volunteer? Put up your hand if you know the answer.

(Sir Kevin Tebbit) The design specification for the AS90 was not for 44°C in the desert. The design specification for the AS90 was for temperate climates. This was a Cold War legacy system designed for the European battlefield.

35. No, no, with respect, listen again.

(Sir Kevin Tebbit) I am listening.

36. That is irrelevant. This exercise exposed a flaw. This was not a design fault because the original design stipulated thermally-stable plastic tubes.

(Sir Kevin Tebbit) Yes.

37. Where were they?

(Sir Kevin Tebbit) And it goes on to say that that was not incorporated because when the AS90 was procured it was for temperate conditions and therefore, I assume, it was not converted into the production.

38. But we are talking now of a Rapid Reaction Force.

(Sir Kevin Tebbit) Yes, indeed we are.

39. It may not go into temperate areas.

(Sir Kevin Tebbit) We are having to convert systems which were designed for the north European plain to operate in different conditions. You are quite right that the heat shield on the AS90 gun was not sufficient to withstand the temperatures we encountered in the desert, which is why we are now considering—and this is a different case from the Challenger tank, the Challenger tank is not such an old system—modifications which will strengthen the resistance to extreme heat and temperature. Again, this was an exercise experience and as a result of that we are now changing the specification on the AS90 to cope.

40. How quickly will you be changing it, in case they are needed in the near future?

(Sir Kevin Tebbit) I think it will take about 12 months to complete.

41. About 12 months? What if they are wanted between now and then?

(Sir Kevin Tebbit) They are still usable and were used during the exercise.

42. As long as it is not too hot.

(Sir Kevin Tebbit) There was limited availability because of that factor, but they were limited to 25 kilometres per hour.

43. And moving at night.

(Sir Kevin Tebbit) They moved at night for different reasons.

44. It says in the report that they were confined to moving at night.

(Sir Kevin Tebbit) But not for the same reason. They were confined to movement at night for operational security reasons. As the general will tell you, it is what you do when you are fighting wars.

#### Mr Osborne

45. This may seem an obvious question, but am I right in saying that the kind of conditions you experienced in Oman would be similar to the kind of conditions you might experience in Iraq?

(Sir Kevin Tebbit) No, they are more extreme.

46. In Oman?

(Sir Kevin Tebbit) In Oman.

47. Depending on which time of the year you go in or . . . ?

(Sir Kevin Tebbit) This is a purely hypothetical question, for reasons you will well understand. They are more extreme in Oman because of the amount of desert and heat, which is very different from Iraq, particularly northern Iraq. Obviously Iraq changes but it is the difference between sand deserts and rock deserts.

48. Although, as the general says, the problems with the tanks were similar to ones experienced in the Gulf War.

(Lieutenant General Reith) In terms of dust, not temperature.

49. So you had the same dust problem 10 years ago, albeit on a different tank, and you have the same dust problem now.

(Lieutenant General Reith) Not the same at all. The dust was being ingested into the engines of Challenger 1; we were having to replace engines and main assemblies, which is very expensive and very difficult to do because you have to regenerate an engine. All we have to do now is to replace filters which are a disposable item.

50. How long does it take to change a tank filter?

(Lieutenant General Reith) About 20 minutes if you have the tank filter.

51. Would a tank carry a tank filter with it?

(Lieutenant General Reith) The tank filters move with the tank squadron.

52. Does each individual tank have a tank filter on board?

(Lieutenant General Reith) No, the quartermaster, who is with the squadron, moves with them with the filters and any other spares.

53. Do you have to get outside the tank to change the filter?

(Lieutenant General Reith) We always get outside our tanks on a regular basis because we have to do lots of maintenance to the outside.

54. What I am getting at is that if you are in a—

(Sir Kevin Tebbit) I think I can help you. You do need to remember the answer to the earlier question. If we were in an operational environment we would have side skirting, up-armouring, appliqué armour, which would also reduce dust ingestion. Therefore the usage rate of the filters would be much lower and, I suspect, on the design specification.

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55. The trouble is that I do not know whether you are telling the truth about this.

(Sir Kevin Tebbit) Are you accusing me of not telling the truth?

56. I do not mean "truth". I am not sure your guesses about the use of air filters are reliable at all.

(Sir Kevin Tebbit) They are not guesses at all; they are not guesses. This is the result of the most detailed work you could possibly have.

57. Why did you not do the work before you sent all these tanks into Oman?

(Sir Kevin Tebbit) Because it was an exercise; that is why we do exercises, to find these things.

58. You did not send one tank maybe six months in advance to run around in the desert and work out that it had a problem.

(Sir Kevin Tebbit) I am sorry, but I must repeat myself. The design authority for this equipment, not the Ministry of Defence, not me, told us that the life expectancy in the worst possible conditions would be 14 hours. They were proved incorrect. That is an experience we have now learned, an experience which is helpful, but in no way vital to the operation of our tank capability because, as I have said before, we have a very large number of filters now because we would not expect to operate in conditions quite as bad as the ones we used, in the most testing conditions we could find, because in operations we would have side armour on anyway which would change that ratio and because there are several options which we could adopt which would be very quick, although you must understand I am not at liberty to tell you just how quick, to solve the problem completely by doing what the Omanis have done.

59. Your answer strikes me as incredibly complacent.

(Sir Kevin Tebbit) They are just facts. I am sorry if you do not like them.

60. You carried out an exercise to see whether you could use these tanks in the desert. We may be facing an operation where we are using tanks in the desert and you are saying that we do not need to learn the results of this because actually the real tanks we deploy would have all this appliqué armour so it is not a lesson worth learning and because we ran it around near Toronto it is fine.

(Sir Kevin Tebbit) You are misrepresenting entirely what I have said. Let me try again. We now have very high stocks of tank filters, very, very high indeed. We now have lessons which tell us in what conditions the filters have difficulty. We have operational armour which would mean this was different anyway in a real operation and we have tested that arrangement again to prove that is the case. We also have a number of options available to us and this is very important. We have a number of options available to us which we will adopt if necessary, which will ensure that our tanks have full protection against dust should they be required for operations.

61. Thank you; that is good to know. May I turn to communications where another problem was thrown up by the exercise? It says in paragraph 2.35, "Tank squadrons . . . were unable to communicate effectively with each other, and were frequently

forced to interrupt manoeuvres in order to consult on orders for ongoing training". They could not use the mobile phones which they were able to use in Kosovo because there was no mobile phone coverage. Am I right in saying that if we deployed forces in the next year we would still have major communications problems?

(Sir Kevin Tebbit) You are right that we would still be using only the first bit of the upgraded communication system, that is to say the personal role radio, which is not encrypted and therefore is not secure. We would still be using Clansman because we will not have finished the complete upgrade to Bowman until 2005.<sup>2</sup>

62. It says in this report that there is a capability gap.

(Sir Kevin Tebbit) Yes; indeed.

63. I have been told stories that people had to communicate by hand signals between tanks in the operation.

(Sir Kevin Tebbit) That may again be a slight failure to understand the context, but may I ask the general?

64. Did they use hand signals?

(Lieutenant General Reith) They do anyway. It is normal, when you are on the move with a tank formation, to use hand signals to move. It is sometimes much easier than cluttering a radio net.

65. If you are advancing under fire, would you undo the hatch and signal to the others?

(Lieutenant General Reith) Everything that is done with a tank formation is done by pre-arranged drills. Normally, until you come into direct fire contact, you will actually have your hatch open because that gives you better all-round awareness. Once you close down you are obviously looking through sights and so forth which are more limited. You need that spatial awareness when you are travelling. The commander will signal and when his tank moves the others will then move automatically into the right formation.

66. Presumably if they cannot communicate with each other, if they cannot see what the lead tank is doing, maybe because of the dust and explosions going on, then they cannot actually communicate at the moment from one tank to another.

(Lieutenant General Reith) That is not correct. Clansman has its problems, there is no doubt about that. It is very ageing equipment and Bowman is much looked forward to. With the distances between tanks in a tank formation they definitely can communicate, but we are not communicating secure, which is what we will be getting with large elements of the Bowman package beyond the personal role radio.

67. What about the clothing? Do you now have the 30,000 uniforms which this report suggests you have for desert combat?

(Sir Kevin Tebbit) No, not at this point. We do not have those and we are about to make a judgement as to whether we should do that or not.

<sup>2</sup> The target 'In Service Date' for Bowman remains March 2004 and conversion of Land Forces is expected to be completed by December 2007, not 2005.

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68. Some lightweight footwear, so soldiers do not have to go to buy their own?

(Sir Kevin Tebbit) That is not quite the case.

69. "We encountered a number of personnel who had purchased suitable footwear at their own expense."

(Sir Kevin Tebbit) There is always that option and people do tend to do that.

70. A sort of eighteenth century army where you come along with your own clothes.

(Sir Kevin Tebbit) No, not at all. Do you really want to know about footwear?

71. Yes.

(Sir Kevin Tebbit) We issued desert footwear only for the 2,000 advance troops who went in the heat of the summer on the judgement that it was going to be cooler during the exercise and normal boots would be appropriate for the rest. That does seem to have been correct. Other footwear was issued which was for people in the headquarters, like chukka boots. Those were the ones which were about 10 years' old and not very good if you are taking them into the desert. They should not have been taken into the desert.

72. Can you assure me that if we were to mount an operation in the next year, the combat troops we would send in, the front-line troops, would have proper desert clothing and desert footwear?

(Sir Kevin Tebbit) Yes, we do hold stocks of desert clothing and did during the exercise. We held it back, we did not use it, because we may have needed it for a real operation. Therefore we only issued a small proportion of it for the exercise in the belief, possibly mistaken, that the temperatures would not be so extreme as to require full desert equipment. We are now looking at whether the so-called Combat Soldier 95 clothing is adequate for temperatures of this kind or not. If it is not, then we have the option of buying more desert equipment. In any case, we can generate enough capacity to get it very quickly from industry if we need it. There is another aspect of our relations with the Committee, which you may know about, where we are urged not to hold more than we need. Therefore we have to strike a balance between what we need to have in our stores holdings and what we can procure urgently from industry. That said, if we find that Combat 95 uniform is not good enough for extreme conditions, then we shall procure more desert clothing.

73. Would you give me an assurance, as this is the sixtieth anniversary of our most famous desert battle and we may be engaged in another desert battle at some point, without speculating too much, that when we ask our soldiers to go in they will have the tools to do the job?

(Sir Kevin Tebbit) Indeed I can assure you of that and I am sure the General can as well. It is of course nearly the two hundredth anniversary of Trafalgar as well.

74. We did not get onto the maritime aspect of the exercise.

(Lieutenant General Reith) We made a conscious decision over the desert combats. I said that those who were going in early and were going to be working out in the desert during the very hottest part of the Omani weather period should take it, because

it is pure cotton and is much more comfortable in those temperatures and that those who need it during the exercise for camouflage purposes as part of the exercise should also be issued with it, which they were. We did not issue any more because we do require stocks to be held and that was what we did. I should also say that Combat 95 is actually a very versatile set of clothing. In fact I suggested to the PUS that I should be wearing it today, but he told me I had to be much smarter for the Committee. It was designed to cover from the arctic, right through into desert conditions and it works on a layer principle. The balance is whether we have the mix between polyester and cotton right for the extreme temperature end of the scale. That is all.

#### Mr Williams

75. You told Mr Osborne that Bowman would be introduced in 2005. In paragraph 2.36 it says "... Bowman is introduced from 2004". I took "from" as meaning during 2004. Are you now saying that it has slipped another year to 2005?

(Sir Kevin Tebbit) No, it is not slipping. It is slightly misleading. Bits of Bowman are being introduced now and already exist, that is to say the personal role radio, which is a bit of Bowman. This is a reference to the encryption and data links which come with Bowman and will be fielded out for 45,000 people. That will happen during 2004 and be completed in 2005. I do not believe there is any difference between what is written here and the plan. It is not slipping.<sup>3</sup>

76. The encryption links are very crucial, are they not?

(Sir Kevin Tebbit) The encryption is very important indeed. Even so, one might still want to retain radio silence and use hand signals. Nevertheless, it will be a great improvement.

#### Mr Steinberg

77. I would really hope that you are not going to get very tetchy with me.

(Sir Kevin Tebbit) I am never tetchy, Mr Steinberg. I am just anxious to get the truth across.

78. You signed up to this report. We receive this report and read the report and make our judgements from the report which we read. Therefore if you disagree with what is in this report, you should say so at the time so that we are not under any misunderstanding about what the National Audit Office are trying to say to us. It is clear from the questions which both Mr Osborne and Mr Williams put to you that they were questions based on the report. My questions are based on exactly the same sort of line but you seem to object to those questions. At the end of the day, you signed up to the report. If you did not agree with this report, you should not have signed up to it.

(Sir Kevin Tebbit) Let me be clear. What is often happening in what I am saying is that the factual statements about what actually happened on the exercise are accurate. The inferences which are being drawn from them, in terms of what this would mean

<sup>3</sup> Ref footnote to Q61.

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for real-life operations, are in some cases erroneous; not in all cases. Some very valuable lessons came out of the exercise, many of which are in this report; we got 2,000 lessons from it.

79. We can only draw the conclusions we draw from the report we read.

(*Sir Kevin Tebbit*) I agree.

80. If you believe that those conclusions are going to be made by us, then you should ensure that is what is said in the report so we do not go down the wrong lines. I feel that I spent virtually the whole of Sunday afternoon wasting my time reading this report, putting quite a lot of work into it when you then come along and say it is a load of crap anyway.

(*Sir Kevin Tebbit*) No, I did not say that.

81. You inferred that.

(*Sir Kevin Tebbit*) No, I did say that if you read paragraph 1.22 of the report, for example, it says that the exercise was a success and that is indeed the conclusion of the report at a later stage. I have to say Mr Williams opened with a suggestion to me that it was a complete failure and that is what I challenged.

82. I have to say that after I read the report, my line of questioning was basically exactly the same, that it had not been a very good exercise because of what had actually happened. Let us just look at page 2, paragraph 6, for example, the whole of the paragraph. It makes us wonder whether the exercise was really worthwhile in the first place. Basically what it says is that it took three years to arrange, yet it is the Joint Rapid Reaction Force which has to react within 30 days and this took three years to arrange. It says that the medical facilities were not scaled for a real war, only half the armoured brigade was taken and full war stocks of munitions were not taken. So how do you know from this, if we have a conflict situation, that there is not going to be a catastrophe, because these were never tested?

(*Sir Kevin Tebbit*) You are making my point when I was trying to explain the context. The context is that exercises, even a big one like this, are not the only way that we demonstrate and exercise our Joint Rapid Reaction capability. In parallel with this we were doing real world operations and we have just done one in Afghanistan. During this period we were keeping 2,000 forces in the Balkans, 3,000 in Kosovo, 2,000 in Bosnia. We were keeping quite a large force at that stage in Sierra Leone. So in addition to the exercise, we were learning real lessons about JRRF generation from operations. It is a form of force that we use for flexible purposes. Sometimes we use small elements, sometimes we use large elements. This was a medium scale; pretty big actually for a medium scale, 22,500 people. It is not the only way of demonstrating the JRRF concept, but it is a very good way of testing where the lessons really need to be learned. In operations we tend to go heavy. We tend to go with what we need to win. This exercising is a good way of trying to see where the limits are, where we need to make actual adjustments.

83. Basically what you are saying there is that there would not be a complete catastrophe if there is an action in the Middle East in that particular area, that this exercise has proved that we are quite capable of—

(*Sir Kevin Tebbit*)—lifting large amounts of people and equipment into a battle zone.

84. And that the equipment will work.

(*Sir Kevin Tebbit*) Yes; indeed. The availability levels of the equipment are really quite high, although there were some artificialities like holding back some of the tanks, because of the problems of dust ingestion, for the last phase.

85. Paragraph 9 says that the exercise actually did fully extend the dedicated strategic lift assets, but even with the new C17s you were unable to lift everything you wanted to and you will have to depend upon civilian aircraft to do that. Is that wise that in a conflict situation you have to depend upon civilians?

(*Sir Kevin Tebbit*) We do rely on a balance and a mix; that is quite true. We have four C17s and our C130s which are far more than any other European country has. We have ro-ro ferries coming along very soon, but we do rely on civil charter as well. To have our own dedicated forces to move everything would be quite prohibitive in cost. We have the A400M project coming forward, so we are doing a lot to improve our lift capability. This does work.

86. In the recent conflicts we have had over the last 60 years, have we depended upon civilian resources in those conflicts?

(*Sir Kevin Tebbit*) Yes, we have always relied on civilian resources to some extent. There is a very wide range of companies and providers out there and we did not have problems in Kosovo, for example, when we were going in for real in 1999. We used that civilian mix and it worked. Similarly in Afghanistan, we could have done although largely we used our own. Basically it does work.

87. There is no undue risk.

(*Sir Kevin Tebbit*) No, we believe the risk is managed properly.

88. What would happen if it were not?

(*Sir Kevin Tebbit*) That is a hypothetical.

89. It is all hypothetical, is it not?

(*Sir Kevin Tebbit*) You would require then the whole of the global transport effort to be denied to us and I think that is unlikely.

90. Two previous members have gone into the situation with the Challenger 2 tank, troops, equipment, clothing, so I do not want to go down that line any further. What I wrote down was that you had 23,000 men there, but once they got there they did not have the right clothes and the weapons did not work. Logistically it was successful to an extent but it is a bit worrying, is it not?

(*Sir Kevin Tebbit*) The weapons did work.

91. I can remember Kosovo. You got them to Kosovo, but you did not have any beds for them to sleep on. Do you remember that?

(*Sir Kevin Tebbit*) Yes, I can remember that.

92. This is a similar scenario, is it not?

(*Sir Kevin Tebbit*) Even with Challenger 2 we had 83% availability which is very high for a military force.

93. Did you know about these things before you went?

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[Continued

**[Mr Steinberg Cont]**

(*Sir Kevin Tebbit*) No, not all of them. I knew that we were making judgements as between cost and other operations and this exercise and that we were going to find some interesting outcomes. We could have spent another £20 million and upgraded the tanks. Actually I do not think we would have done because of the operational requirements at the same time. We could certainly have played safe.

94. What was very worrying in the report as well was that it seemed to indicate that some of these problems which occurred, occurred during the Gulf War and the general was there. Yet the same problems were still happening 10 years later. Had nothing been done to put those problems right?

(*Sir Kevin Tebbit*) They were not quite the same as the problems from the Gulf War. These were different tanks for one thing. As I said, we had 83% availability. We learned a great many lessons.

95. You argued that the desert in Oman was much hotter than it would be in Iraq. Presumably you knew that. On the other hand you argued that you did not realise it was going to be so hot when you went to Oman.

(*Sir Kevin Tebbit*) I did not argue that. The report sets out the difference between expected climate and the climate we actually faced. It was hotter than was expected. That is a fact.

96. Figure 11, page 19. We talked about equipment and the failing of equipment and you explained the problems with the tanks and the AS90s. Figure 11 tells us that you took with you on the exercise 44 helicopters, but it says that the average availability was only 55%, which is to me that only 24 of those helicopters were actually available. Over 50% of those helicopters were not available for the full length of the exercise. That is going to be very worrying. Presumably helicopter warfare nowadays is vitally important and if half your helicopters do not work, that has to be quite serious, does it not?

(*Sir Kevin Tebbit*) You mentioned not learning the lessons from the Gulf War. If you read the report, paragraph 2.28, it acknowledges that we did indeed draw on the lessons from the Gulf War and did anticipate certain problems. The problems we had about helicopter availability were not actually about desert conditions or dust, they were actually general problems affecting helicopters worldwide, which are being dealt with as part of an unrelated worldwide programme.

97. So the enemy will have similar problems with their equipment, will they?

(*Sir Kevin Tebbit*) Basically, there are various kinds of problems affecting helicopters. Some had to be withdrawn for general maintenance and safety checks, which is true of aircraft fleets and helicopter fleets worldwide. That happened to coincide with the exercise. The Gazelle helicopters were affected by what is called main rotor heating and an in-theatre solution was found, but not before there had been a loss of availability. Unfortunately we did have a crash of one of the two Lynx helicopters, the Mark 9s, which is why that one goes down sharply, but I have to say that we actually got above average usage from our helicopters, compared with the real world, which just goes to show that there are problems

about helicopter serviceability and availability generally which are being dealt with by means of a worldwide programme rather than anything Saif Sareea specific. The exercise was quite good in demonstrating that we can maintain helicopters to pretty good availability. I am afraid 55% is not bad for helicopters at the moment.

**Mr Bacon**

98. May I pursue this question of the tank a little bit further? It does say in paragraph 2.20, "Difficulties encountered by the Challenger 2 fleet . . . and their consequential impacts on other exercise participants became, for a time, the single largest problem faced by exercise planners". You did say that there had been a judgement call about not doing the extra work and that that was probably in retrospect the wrong judgement. I have here a copy of *Soldier* magazine from December 2001 reviewing the exercise a couple of months afterwards. It says that the warning signs of the problems to be faced in Oman were signposted in Canada by a dramatic rise in the use of air filters. That our Challengers were not designed for these temperatures and for the dusty environment. That experts had been saying for at least a year that air filter use out here was going to be significantly greater than in north-west Europe and that there was a requirement to front load a lot of air filters, in other words to have them in theatre before they were needed. I assume that experts were saying that. Why did you not take any notice of them?

(*Sir Kevin Tebbit*) The design authority were still saying that at very worst they would last 14 hours.

99. This is the 14 hours.

(*Sir Kevin Tebbit*) Yes.

100. Who was the design authority?

(*Sir Kevin Tebbit*) For air filters it is a British company called PALL Aerospace.

101. If you are going to lay all the blame on them, it might be helpful to know who they are.

(*Sir Kevin Tebbit*) PALL Aerospace.

102. I am right, am I not, that this exercise was three years in the planning?

(*Sir Kevin Tebbit*) Yes, it was.

103. Why did you not do what Mr Osborne suggested, which was to take one tank out there? I am just amazed that you did not say to yourself, perhaps these design authority people are right, perhaps they are wrong, why do we not find out? Just take one Challenger tank out there in the unamended, 'undesertised' condition, find the most extreme conditions you can and thrash it and see what happened. Why did you not do that? Would that not have been obvious and pretty cheap?

(*Sir Kevin Tebbit*) With the benefit of hindsight, yes. By the way, if we had taken it to the main exercise area we would not have found anything different from the specification. I have to keep coming back to the problem of doing it in the southern Omani desert. You are quite right, we could have done that, but we did not do it. I say "we", but the armed forces judged that was not a necessary measure.

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[Continued

**[Mr Bacon Cont]**

104. The real question about the Challenger which I want to come on to is: what now? We may be having an operation, a real deployment, within not so many months. What are you doing or what have you done to the Challenger 2 tank fleet now so that if we have an operation they will be ready?

(*Sir Kevin Tebbit*) We have a very high level of filter availability now. I should not like to go into details but our holdings are adequate, many times more than before. Secondly, in an operation we would up-armour, we would add appliqué armour to the sides of the tanks for other reasons, but which also happens, because they are like skirts, to change the way in which the dust folds over and goes down into the tank engine. That reduces ingestion automatically without any of the 'desertisation' measures. Thirdly, if we choose, it would not be a technically difficult or time-consuming issue to add various measures, whether it be changing the angle of intakes, whether it be improving or upgrading the filters themselves, whether it be doing other things to the engine area which would again improve the issue. It is not a technically challenging, time sensitive issue.

105. May I ask you about the SA80 rifle? I know that it went wrong. *Defence Review* magazine described it as a resounding failure with stoppages after every round, but added that that was no great shock when you realised that it was the old A1 model. This is a journalist called Winfield writing in winter 2001. He says that the number of times squaddies ask when they are going to get the new models goes to show how much morale has been affected by its lack of performance. Will soldiers deployed in any future operations in the Middle East in the near future have the SA80 A2?

(*Sir Kevin Tebbit*) It depends how soon you are talking about. I have to be very honest about that. If you were to hypothesise, certainly the SA80 Mark 2 is now being fielded and is coming on stream rapidly.

106. It says here that it works very well in all conditions, including very reliably in the desert. Is that right?

(*Sir Kevin Tebbit*) Yes.

107. So if you were a squaddie, that is the gun you would want to take with you, if you were taking the Queen's shilling.

(*Sir Kevin Tebbit*) Let me ask the General, because he fires these things all the time. I have only fired them from time to time. By the way, I have never had a misfire with the SA80. I actually thought it was a good gun already, but we had a confidence problem with our forces and we have rebuilt that confidence. We introduced some modifications as well.

108. I bet you have not tried the SA80 in such extreme conditions.

(*Sir Kevin Tebbit*) Yes, yes, we have trialed it. Both the marines and the army participated in the latest trials and are absolutely satisfied about the SA80 Mark 2.

109. When will our soldiers have the SA80?

(*Sir Kevin Tebbit*) They are getting them already. We used them in Afghanistan.

110. Will any soldiers who go to Iraq have the A2?<sup>4</sup>

(*Lieutenant General Reith*) I doubt it. I cannot say for certain, but I doubt it.

111. Do you mean they will probably have the A1?

(*Lieutenant General Reith*) No, sorry. I doubt any will have the A1.

112. Do you mean they will all have the A2?

(*Lieutenant General Reith*) We are in the process of fielding it now. When we deployed the marines into Afghanistan, we deployed them with the A2 to ensure that on operations they had the best available weapons.

113. Is your plan to do the same for Iraq?<sup>5</sup>

(*Lieutenant General Reith*) Indeed.

114. If you had to.

(*Sir Kevin Tebbit*) That is a hypothetical question.  
(*Lieutenant General Reith*) It is a hypothetical question.

115. I know it is a hypothetical question.

(*Lieutenant General Reith*) I have fired the SA80 many times. When I commanded a battalion we converted from a self-loading rifle to the SA80 during my command and I saw an increase in quality of shooting by about 50%. It is a completely different weapon to anything we had experienced before, little tolerance, high performance, very light weapon, very easy to shoot, less weight in ammunition to carry, a very good weapon. We had problems with the A1; there were design faults within the A1 which we encountered and because of that we spent a lot of money developing the A2. The A2 is a much, much better weapon. I said to you that in Afghanistan the A2 was used by the marines and we appeared to have the same problem again. The difficulty was when we introduced the A2, because we did it in a hurry, we had not yet put the maintenance booklets for them forward with it. They had problems because there had been a decision, as we had with previous weapons in dusty conditions, not to oil the weapon regularly and therefore they got lots of stoppages. We have since trialed that against other weapons as well and we have proved that providing you oil them regularly and there is not somebody who makes a decision not to oil them, actually it is an extremely reliable weapon. We are now issuing the right maintenance advice to everybody, the trials occurred and we are building the confidence back into the armed forces.

116. The climate categorisation for this exercise was A3, is that right?

(*Sir Kevin Tebbit*) Yes.

117. According to page 22 this refers basically to the conditions we have here in western Europe and Canada. Have you been to Canada?

(*Sir Kevin Tebbit*) Yes, I have.

118. Are you familiar with the climate in Canada?

(*Sir Kevin Tebbit*) Yes; reasonably.

119. Have you been to the Middle East?

<sup>4</sup> Note by witness: All references to Iraq are hypothetical as no decision has been taken by the Government.

<sup>5</sup> Ref footnote to Q110.

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[Continued

**[Mr Bacon Cont]**

(*Sir Kevin Tebbit*) I lived in Turkey for three and a half years.

120. So you are familiar with the climate there too and Turkey does have a border with Iraq.<sup>6</sup>

(*Sir Kevin Tebbit*) Yes, it has a border with lots of countries.

121. One would appreciate with just a bit of common sense that they are really quite different climates. Why would you categorise this exercise as the A3, intermediate, Canadian, when actually A1, extreme hot and dry, very high temperatures, parts of the Middle East, would seem more appropriate?

(*Sir Kevin Tebbit*) Because the authorities planning the exercise looked at the weather data and on that basis expected it to be A3. They were wrong.

122. When the NAO did its fieldwork, paragraph 2.41, they "... encountered temperatures at Camp South ... of 46 degrees Celsius". If you had three years to plan this exercise, presumably in each of those three years, probably all the time, at least one member of MOD personnel was on site in Oman. Could you not just have asked them to take some note of what the climate was like while they were there?

(*Sir Kevin Tebbit*) A3 does still take you up to 39°C which is pretty warm.

123. Boots were melting.

(*Sir Kevin Tebbit*) No, no, they were not.

124. They were not?

(*Sir Kevin Tebbit*) No; not unless you stood on a hot tank engine in shoes or chukka boots. Then they might have melted, yes, they did.

125. They were falling apart but not melting.

(*Sir Kevin Tebbit*) They should not have been doing that. It is purely based on the data which was used to plan the exercise.

126. It was not to save money. You hesitate. Could it possibly have been to save money?

(*Sir Kevin Tebbit*) I am just trying to work out what you are suggesting.

127. I am suggesting you were trying to save money.

(*Sir Kevin Tebbit*) That we falsified the weather conditions to save money. No; except on clothing. Did you mean clothing?

128. Indeed.

(*Sir Kevin Tebbit*) It was not to save money on clothing, it was actually to keep more stocks for operations.

129. One last question on the container handling rough terrain system, page 18, paragraph 2.24. Of your 13 container handling rough terrain pieces of equipment, eight were deployed to Oman. Unfortunately the five-year contract to maintain these vehicles only applied to the UK and Germany which means you cannot get cover when you are on an expedition. Given that was the case, and I understand that it might be prohibitively expensive to have a global support agreement, why did you not make other arrangements for having engineers on hand, perhaps member of the Royal Engineering Corps, who knew how to handle these machines and repair them.

(*Sir Kevin Tebbit*) We are now looking at extending the contract for container handling rough terrain machines.

(*Mr Oughton*) KALMAR do provide support outside the area for which they are contracted but it is done on a case by case basis. In any exercise of this nature or deployment, it would be open to us to go to the company and to negotiate a particular regime for support. It is not that the company would not support outside Germany and the UK.

130. But it would be at too high a price, which brings us back to my question: why did you not do it in-house? You know it is going to be prohibitively expensive to do it externally, or you presume it is and the NAO seems to think it is and you told the NAO it is. Why did you not therefore come to some sort of alternative arrangement in-house?

(*Mr Oughton*) Because it is a very small fleet of vehicles; 13 are in our inventory. They have a very specialist task for operation in—

131. It is a fork lift truck.

(*Mr Oughton*) It is more than a fork lift truck. It is designed for operation in a very confined space where a great deal of agility is required.

132. It is a very strong, agile fork lift truck. A competent engineer would be able to cope with it, would they not?

(*Mr Oughton*) It is an extremely strong and agile truck, but we have limited numbers of them. In those circumstances, we would look at the cost-effectiveness of conducting support ourselves or the cost-effectiveness of providing support from contractors and we would judge that on a range of factors.

133. But you did not do either, did you?

(*Mr Oughton*) The equipment did work in theatre; two equipments failed for different reasons, but the majority worked in theatre.

**Mr Williams**

134. A point of clarification, general. Are you saying categorically to Mr Bacon that there will be adequate supplies of the A2 weapon in the foreseeable future if there were an event in Iraq?<sup>7</sup>

(*Lieutenant General Reith*) I did not actually say that. What I said was that the intent is that all those deployed would have the A2. We are in the middle of fielding at the moment and I cannot be accurate because I do not know whether we would go to Iraq, because there are no decisions, and I do not know when. I cannot guarantee that they will all be fielded, because I do not know any timings.

135. That is very, very different from the impression you gave the Committee. Could you give us a note on that, in confidence if you wish?

(*Sir Kevin Tebbit*) It would not be right to speculate, because we cannot talk about Iraq. I have no authority to do so and neither does the general, so we cannot answer your question.

136. What I will ask you is whether it will be possible to equip a force of 20,000 by January. Could you let us know that in confidence?

<sup>6</sup> and <sup>7</sup> Ref footnote to Q110.

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(Sir Kevin Tebbit) That is a very different question and I am happy to give you the answer in confidence.<sup>8</sup>

### Angela Eagle

137. If we look at paragraph 6 of the report it says that a number of key elements of the Joint Rapid Reaction Forces concept were not chosen by the department for the demonstration. That included the “rapid” part of rapid reaction. It also included the “readiness” part of rapid reaction. Those seem to be two of the most key elements of the rapid reaction concept, so why were they not part of the aims of this exercise.

(Sir Kevin Tebbit) Because with an exercise of this kind, planned with another country, one has to make trade-offs about artificialities and one of the artificialities was that this had to be planned over a period of time with the Government of Oman. May I just say, though I am probably going to fall into the same trap of criticising the report which I have agreed, that we did actually demonstrate readiness. We actually got the troops up to their readiness states in accordance with our Joint Rapid Reaction Force guidelines. What we did not do was demonstrate the deployment, because the deployment requires us to move these people concurrently and rapidly using a combination of sea and air, with the emphasis on air for the manpower. We did actually move most of the manpower by air, but we did not use as much air and we did not do it as rapidly as we would in a real operation. That was partly because of the exercise artificiality of doing this in conjunction with the Government of Oman and it was partly for cost reasons. If we had deployed them with the speed we would expect to in a real operation, it would have been prohibitively expensive. We can do that, we know we can do that because we do it if we go to Afghanistan or Kosovo or Sierra Leone or other places. I am back to my point at the beginning. We learned an awful lot of lessons here; lots of things were not perfect and we have learned good lessons. The main thing to remember in the context is that this was an exercise, it was not a real operation; we learn from operations as well, this is not the only way of demonstrating the Joint Rapid Reaction Force.

138. I understand that absolutely. So you believe that both the “rapid” and the “readiness” elements of the rapid reaction concept are already well tested.

(Sir Kevin Tebbit) Yes; the readiness was demonstrated by this.

139. So you are not planning to test.

(Sir Kevin Tebbit) We did demonstrate readiness by this exercise but not the rapid deployment.

140. It does not say that in paragraph 6, does it?

(Sir Kevin Tebbit) No, it does not.

141. It says that the operation “. . . did not set out to demonstrate readiness”.

(Sir Kevin Tebbit) It does say that and that is why I am apologising, because I should have read it more carefully. It was the deployment that it did not demonstrate; it did demonstrate readiness. We brought the units up to their readiness states in accordance with the Joint Rapid Reaction Forces concept.

142. Are you happy that both of these important parts of the concept are already tested? You are not planning any other events to test them.

(Sir Kevin Tebbit) That is correct. We did actually demonstrate considerable agility during this exercise: we were doing real-world operations at the same time.

143. I understand exercises of this kind give you the chance to demonstrate all sorts of things which are good. Can you tell me why planning was so uncertain? Paragraphs 3.2 to 3.4 range over the history of this planning phase which began in 2000 with funds of £32 million for an exercise in the United States, then it shifted to Oman, then doubled in size, then was considered for cancellation, then changed again. In paragraph 3.3, “The Department stipulated an ‘absolute’ cost-cap of £48.1 million” and ended up spending £90 million. Can you take me through how some of that happened, because it did affect value for money of the whole exercise, as the report says?

(Sir Kevin Tebbit) You are quite right, it did change a lot over the three-year period and it changed from an original plan which was going to America to exercise and to demonstrate this, which would have been much cheaper and much easier, to this much more arduous test. Over a three-year period a lot happened in the Department. We deployed several real-world operations. The Kosovo operation was extremely demanding. Although in the end we did not have to fight our way in, we were about 10 days away from calling up very large numbers of reserves. It was very demanding indeed. And we had to cope with other operations at the same time. We also had to cope with a budget which was under a great deal of pressure throughout this period. We were having to make judgements as we went along about the exercise in relation to real operations and how much we could spare in order to demonstrate the JRRF concept through exercises and about the other demands on our budget. For that reason we continued to adjust the provision for the exercise. There were two different Spending Rounds which happened during the period of planning this and therefore it is not surprising that we made adjustments as we went along. The difference in cost growth between the £48 million and the £90 million, the outturn, is going to be about £85 million is due to three things. First, revised policies which changed during that period and realism. Exchange rates and fuel costs moved by £3.7 million. We introduced an operational welfare package for our people, the main element of which was a lot more telephone time home. That was not there to start with; it was a policy change which came in late on. It was very successful. That cost £8.8 million. Then we gave people some leave while they were planning the exercise, because of the length of time they were out there in the very hot period. That was £300,000. Then, to meet our medical guidelines on the conditions we should ensure our people were treated in, as a result of what

<sup>8</sup> Note by witness: Yes. Over 41,000 weapons have already been issued and they are continuing to be issued at the rate of 4000 per month. Should the operational situation require it, this process can be accelerated as it was with Afghanistan. The forces that might form part of any future deployment are already likely to be in possession of the SA80 A2.

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[Continued

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we found in Sierra Leone and Kosovo, added another £1.5 million. That is £14.3 million for realism. Then, and this is quite an irony really, we decided to run our tanks more heavily than we had originally intended. We added 600 kilometres of track mile. The spares package, the support package for tanks is measured by track kilometre. We shifted that amount of extra tank activity from exercises which would have happened in that year, but did not because of foot and mouth. We could not use our tanks in Canada for a while because of foot and mouth; the Canadians stopped us sending them in. We had extra potential which could not be used elsewhere, so we added it to the exercise. We did more with our tanks than we otherwise would as it happens. That was an extra £11.7 million. Then there was cost growth.

144. How much do you estimate cost growth at?

(Sir Kevin Tebbit) The cost growth was about £16 million. There were oversights in our original estimates, which were proved to be wrong. One of them was about how much commercial air lift we would need to use. We used rather more commercial air lift than we had originally planned.

145. Because of the uncertainties of planning which you have just explained—and I do not think anyone would want to criticise the pressure that the department was under, especially in real-time operations with the work being done in Kosovo at the time—but you managed to get yourself into a situation where over a three-year planning period extra amounts of cost were incurred for last minute cancellations of hired transport and also not hiring and cancelling things and then having to hire at the last minute and a range of changes which increased cost.

(Sir Kevin Tebbit) Most of the changes decreased cost, although there were cancellations. Sorry, I had not quite finished.

146. I have some more questions to ask.

(Sir Kevin Tebbit) You did ask me the difference and I still have about £10 million to do. There were oversights in the original estimates from air lifts, and from food. We thought we would be able to get more food locally and it proved not to be safe to do so, so we bought more food in from the UK. We changed our rules on separation allowances in that period and that meant we needed another £6.1 million for that. We ought to have been able to plan for that, because we knew the dates, but we failed to do so. Then there were in-theatre costs for generators and air conditioning units because we had not estimated well enough how much that would be. That adds up to £90 million. Sixteen million of that was real cost growth, which we should have contained better. We have introduced new systems for capturing the cost of exercises so that we will plan them better in future and not make these sorts of errors. I am not very pleased about the cost growth and at various stages during the planning both I and the Secretary of State summoned the then CJO and interrogated him about the cost increases in the exercise.

147. That is good to hear. In paragraph 3.5 there is reference to how much stuff is still missing. The report says in paragraph 2.49 that initially £46 million of equipment was sent over for the exercise

and that £27.7 million was returned, but there is this issue of Afghanistan. How much was actually lost or misplaced or used or not returned if you take Afghanistan out of the equation?

(Sir Kevin Tebbit) I am afraid I cannot. We are talking about the ground force stuff, the army equipment. We do not have a tracking system which enables us to do that. I expect, when you think about it, that is not entirely surprising. We do not capture the cost of equipment moving into an exercise like this and out again and certainly not moving from an exercise like this and into Afghanistan and out again.

148. So we do not know what, if anything, has gone missing.

(Sir Kevin Tebbit) It has not gone missing, it is a question of the usage attributable to the specific exercise which is our difficulty.

149. The asset tracking systems were shown to be not adequate for purpose during the exercise. That is one of the things the report shows. How can you be so certain that significant amounts of equipment—and I do not mean Challenger tanks; you might notice if they went missing—of supplies have actually gone missing or disappeared?

(Sir Kevin Tebbit) You are quite right, I could not tell you down to the last 10 pence whether things have gone missing.

150. You cannot tell us at all, can you? It is not down to the last 10 pence.

(Sir Kevin Tebbit) No. An asset tracking system can only do so much anyway. You are quite right that we did not do a sum which deducted what we were then sending to Afghanistan from what had gone to the exercise and what has now come back from Afghanistan because a lot has not come back yet from Afghanistan because we have left a lot behind, even though we have withdrawn or are about to withdraw quite a lot of the troops. You are quite right. Our systems are not good enough yet to track stuff as precisely as that. I am not sure whether we will ever capture precisely that; in other words separating an exercise from our general usage rates, because it is probably disproportionately costly. You are quite right in saying that we still do not have a good enough system to expedite, to know exactly where things are coming out to deployments. We are putting in place systems to improve that.

151. So we do not actually know how much equipment—clearly petrol is going to be used up—we have consumed during the exercise and we do not know the cost of running all of that, as you would expect. You do not really know how much money you need to spend to replace so you can get your capacity back to where it was before the exercise took place and therefore we do not actually know the cost of the exercise, do we?

(Sir Kevin Tebbit) The replacement system we have would have automatically started replacing what was taken out there. This is the army system, which is different from the other services. With the air force, most of it came back, all but about 2 or 3% came back. With the navy, ships deploy ready for war and when they come back to port, they then see how much they have used, so there is a delay factor there.

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[Continued

**[Angela Eagle Cont]**

It is usually not until they return that the navy know. They work on a broad judgement of about 50% re-supply.

(*Mr Oughton*) What we can be clear about is that of those items which did come back, containers of equipment not used, a very high proportion was engines and major assemblies which were not required to repair tanks in the desert or whatever, reinforcing the point we were making earlier that in this case the equipment difficulties with tanks related to changing simple spare parts, tank filters, not replacing main engines. We did provide a very significant stock of main engines and main assemblies, also for helicopters and other equipments, and they returned. The difficulties we have with asset tracking systems relate to the fact that although we have very good static systems for capturing the information about our inventory, we do not yet have very good systems for tracking the consignment of those assets from our static locations in the UK into theatre. We have some information, some bar coded information, which is available to the logistics supply chain, but typically that information is not always available to the commander in theatre. The new systems Sir Kevin is talking about are designed to raise the confidence level of the Commander in theatre to know that those items he has requested or his subordinates have requested are in transit, will be delivered, he can have certainty that they will arrive. Our new systems are intended to plug that gap.

**Mr Williams**

152. Sir John, this is very much a NAO point. Are you happy with the progress which is being made in tracking or do you feel that there are lessons which could still be learned by the Ministry from this report?

(*Sir John Bourn*) It is quite clear from the report and the points Ms Eagle has made that there is a long way to go and Sir Kevin has substantiated that. I am satisfied that the Ministry of Defence understand the difficulty and the problem and that they are making progress with it. It is an area we shall continue to examine as they take the matter forward.

**Mr Jenkins**

153. I shall try not to ask the same questions but I do have one question which still bothers me a little bit. I do not understand, when you say a judgement was made with regard to modifying the equipment for use in the desert in an exercise and that you were not going to put this equipment into a condition for a conflict situation, how the exercise was a success. I wonder how you know the exercise is a success if the equipment was not in a position to fight as in a conflict situation. If we did not do that and did not get the results, albeit because of world problems and having resources elsewhere, how can you put hand on heart and say the exercise was value for money?

(*Sir Kevin Tebbit*) Because although we had reduced availability of tanks, we took out some of the tanks from the exercise for the last phase, that did not detract from the value of the exercise as a whole because we still had enough assets in there. We

deployed about 50% of our land assets which are in the Joint Rapid Reaction Force headquarters formations into this exercise, the same for the naval forces and about one third of the air capabilities. As the report itself says at paragraph 2.55, these operational objectives were indeed met and we are satisfied. Paragraph 2.60 says, "... the Department believes that the Exercise provided valuable training experience". The military authorities, the chiefs of staff, have certified to me that they are absolutely certain that it provided valuable training experience. So you do not have to have all the elements there doing all the things in order to demonstrate the key elements of the concept.

154. So if I divorce the military side, because I do not understand about tanks, big guns, little guns, and take the helicopters where availability is 55% which, in your words, is very good, very high, I find that amazing. If I were buying a helicopter which was only available 55% of the time, it would go back to the manufacturers rather quickly. I would want a higher availability than that. A simple question which springs to mind: if I was running an exercise and I was changing air filters in tanks every four hours—I do not know how much a tank filter is but it might be 50 pence or it might be £150—how much would it cost to run the exercise, run the tanks, use up the filters? Was that cost evaluated against the preparation cost of putting the tank into a more warlike condition?

(*Sir Kevin Tebbit*) A very good question. I wish you had not asked me that question, because I think I can probably answer it as we spent quite a lot of time looking into this issue. Tank filters cost about £1,000 a go; they are expensive things, they are big things.

155. So not 50 pence.

(*Sir Kevin Tebbit*) No, about £1,000 each. This means that you have to measure these costs quite carefully. The full desertisation of the fleet will have cost about £20 million.

156. For one tank?

(*Sir Kevin Tebbit*) No, for the total fleet. The air filters were not being used at this rate for all of the exercise. It was one particular part of the exercise where they were used at that high rate. If you ask me to make a value for money judgement, I think I would have done other things for the tanks as well. One of the lessons we have learned from this is that basically we should have made modifications to the tanks before we sent them on the exercise. I am accepting that. What I have been challenging is the proposition that the tanks broke down, did not work, or anything like that. They did, but we had to change the air filters too often and it is an expensive business. I am entirely agreeing and accepting what the report says, that we learned the lesson there; it would have been helpful for us to have done the modification. If you ask me to do a cost-effectiveness thing, it is quite tricky, because there are other factors than just money. There was also the operational consideration of needing possibly to fight wars and that was why we kept back these skirts, the up-armoured sides to the tank, giving extra protection against warfare; we did not deploy them with the tanks. Had we done so, we would not have had this problem. This is why I keep coming back to it. It is a combination of operational

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considerations and cost which led us to make certain compromises in doing the exercise, which gave us valuable lessons and we are learning from them. The implication should not be drawn, as some of the Committee have drawn, that this means the equipment itself is bad or that we failed to demonstrate our concepts.

157. I do not want to ask about the equipment, I want to ask about the cost and the fact that someone sat down, spent three years planning this and they must have done a risk assessment, they must have done mathematical models, all these calculations about the cost of doing A, B, C and D and now we realise that A is going to be more expensive and that has been fed back into the model, that is an assurance.

(Sir Kevin Tebbit) That is right. They made a judgement at the time that it was not necessary to do anything about dust ingestion and desertisation. They made the wrong call. That lesson has now been learned.

158. When they talk about the cost of the actual exercise—and it was £48 million and then it was £98 million—that is the MOD's costing system, is it not? This is the additional cost, not the real cost. The real cost in resources is manpower . . .

(Sir Kevin Tebbit) Yes, it is not the full cost.

159. The full cost is much, much higher.

(Sir Kevin Tebbit) Yes.

160. Because these resources which would have been deployed elsewhere are free to you for this exercise.

(Sir Kevin Tebbit) I would not put it that way. We would be employing these people and we would be using the defence infrastructure in any case, whether in this exercise or elsewhere. If the troops had not been here, they would have been exercising somewhere else or they would have been in barracks or they would have been in Germany or wherever. Therefore, certain things are constant. The cost of the manpower would have been the same whether we exercised or not. The reason we use extra cost is to capture the real cost of this activity in relation to other things we might be doing. This is why we use extra costs.

161. I understand that a vehicle has depreciation and if I run a vehicle for an extra 10,000 miles in an exercise it gets used up, burned out and just written off. So that is an additional cost. We do not actually cost manpower and the depreciation of manpower in any way shape or form because in exercises people get used up and burned out to a degree, do they not? Is there no evaluation of this cost at all?

(Sir Kevin Tebbit) No; they would have been just as burned out or used up doing other things. The people who went to Afghanistan found that quite arduous as well. When we do an operation for real, we receive money back from the Treasury for the actual operation's extra costs. That is the system we use, it is the one they have told us to use, it is the one we implement. We operate our training and exercise programme on the same basis, so we capture the extra costs.

162. I notice in the report that the final out cost of the exercise, that is the marginal cost, the additional cost, should be known to you by July 2003. You give a prediction of a total cost of £85 million.

(Sir Kevin Tebbit) That is my current guess of how it seems to be coming out at the moment. I asked people before I came to the hearing what it looked like.

163. What assurance do I have that this way of costing that you have, with additional costs and marginal costs is accurate, and will not be fudged and money will not be put from one heading to another heading and lost in the equation back into mainstream costing rather than being identified as the original marginal cost of this exercise?

(Sir Kevin Tebbit) The assurance I can give you is that we use exactly the same costing system for this as we do for real operations. For real operations the Treasury are prepared only to give us the additional cost of the operation, not a subsidy of core costs. They are not prepared to pay us double from the main budget for general activity and then from the reserve for an operation. So the Treasury patrol this extremely carefully on a detailed basis, item by item with my staff. This exercise used the same costing approach. Therefore the assurance you have is that the Treasury are not in the business of giving departments double. They will only give us the true extra cost of any activity.

164. I shall no doubt keep a record of that because I should like to go back and talk to the Treasury at some time about their inability to control some of these costs.

(Sir Kevin Tebbit) It is my duty to control these costs.

Mr Jenkins: I think the Treasury need to look at it.

**Jon Trickett**

165. I want to go back to the tank again, although I want to ask you about vehicle support as well. When I read this report it occurred to me that there was negligence by the supplier of the tank in the sense that they were failing to meet the design spec which was 14 hours in the worst possible conditions of zero visibility. Then I read Figure 10 which tells me that the Challenger 2 was purchased for a north-west European theatre of operation and that you were perfectly well aware in fact that it was not going to work under desert conditions. If that is the case, then clearly they were not negligent and neither were the design authority on whom you seem to rely to defend your own position. The fact is that you knew these tanks were not going to work in desert conditions and you even allocated money to make them ready for desert conditions yet you failed to spend the money. Is that not the case?

(Sir Kevin Tebbit) We certainly knew that they were not 'desertised'. You are quite right that we did not put that modification on when we bought them. We did have assumptions which were given to us by the design authority about the filters. We have discussed all of that. Life is a series of making judgements about where we put our money and where we spend our money. Earlier we decided not to spend on desertisation. The full cost of desertisation,

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if we wanted to fully 'desertise' our tank fleet, and that includes air conditioning, things like that, would be about £90 million. There are different variants.

166. I rely on the report which you have agreed.

(*Sir Kevin Tebbit*) We judged. I have accepted that and said that we made the wrong call and we should have done some more of this.

167. It says here in Figure 10 that for £464,000 you could have prepared 116 Challenger 2s in terms of new seals, dust strips and track guards. We now know that a filter costs £1,000. So for 400 filters you could have gone a long way towards preparing over 100 Challenger 2s. It says you even made the money available following the decision that we would need to use these tanks on a worldwide basis rather than just in north-west Europe. That being the case, the money was found and the Strategic Defence Review required you to prepare these tanks and you failed to do that. How many filters did we actually use in the operation?

(*Sir Kevin Tebbit*) It was an exercise. I do have the number. I am not sure I should be giving it in open session, but I can certainly give you the number in writing afterwards.<sup>9</sup>

**Mr Williams:** A note would be welcome.

### Jon Trickett

168. Twenty thousand filters cost £20 million and that was the sum of money—

(*Sir Kevin Tebbit*) Nothing like that.

169. Four hundred thousand is the figure here, but I am not going to go fishing for information which you are going to provide us with. I simply do that in order to draw to the attention of yourself and the rest of the Committee that in terms of some sort of cost benefit analysis, it might well have been worth judging the amount for filters against the cost of preparing for desertification. Let me move on and ask you about the design authority, which you said was PALL Aerospace. Do you have a contractual relationship with them?

(*Sir Kevin Tebbit*) Yes, we do.

170. Have you considered that they may well have been negligent in the advice they have given you since they were saying a minimum of 14 hours for a filter and it turned out to be one third of that? Have you considered whether they are in breach of contract?

(*Sir Kevin Tebbit*) No, we have not judged them to be in breach of contract.

171. Have you considered whether they were in breach of contract? Have you taken legal advice?

(*Sir Kevin Tebbit*) No, I have to say that it is true that we have been more concerned to up the production rate of the air filters. We have not considered whether they are in breach of their contractual arrangements.

172. Was their advice inaccurate to a startling degree?

(*Sir Kevin Tebbit*) I was not going to say the precise number of things but you are wildly inaccurate—it is not your fault, because how should you know? A figure of 600 or 700 would be more accurate in terms of how many air filters we used.

173. So three quarters of a million.

(*Sir Kevin Tebbit*) Yes, that is right. I am not even trying to make the argument that it was sensible or the best call. In the light of our experience—

174. With all due respect, I have moved on now. I am now talking about the contractual relationship between the design authority and yourselves. Obviously you have a contract with the supplier. As I understand it, the performance of the tanks is partly underwritten by the design authority. You have a contract with them. It seems to me that they have given you really poor advice. Have you considered whether or not they are in breach of contract? I think you have said no, you have not done so.

(*Sir Kevin Tebbit*) It is a very good question. I know people criticise me for commenting on the wrong type of sand, but it was only in this one very specific place that we had a problem.

175. Fourteen hours with zero visibility.

(*Sir Kevin Tebbit*) It was above their expected figure.

176. If Mr Williams agrees, that is a line we might ask you to reflect upon and give us a note on that as well.

(*Sir Kevin Tebbit*) I may say that we were more concerned, given the judgements of operational efficiency and cost-effectiveness, to up the production level of these filters.<sup>10</sup>

177. I understand. Referring to Mr Williams' comment on the global supply of filters, I notice on the same page that the exercise requirements effectively exhausted the global supply of air filters.

(*Sir Kevin Tebbit*) I ought to comment because you are trying to get to the truth here. I know you are making points and they are all very valid, but may I just comment on this one? Again I must apologise, because I let this through. A lot turns on the word effectively. We never exhausted the global supply of air filters.

178. I think we can draw our own conclusions from the wording of the report. I want to move on to the care of potential combatants. I accept that this was an exercise. It is curious that we relied on Dutch nurses. As you are probably aware, I have tabled questions. I am referring now to paragraph 2.38. Thirty-five nurses from the Dutch army were provided to look after our personnel. In terms of a medium-scale war, you talk about the possibility that you would require about 2,300 medical staff and presumably that is partly a lesson drawing on this

<sup>9</sup> Note by witness: The number of air filters issued for the exercise was in the region of 770, although not all of these were used. The air filters are treated as 'consumables', so that after they have been issued to the units no track of their use is kept by the central stores system. In the event of the units not using all the filters they can either be returned to the depot, at which point they would be registered on the stores system as returned, or retained by the unit. Our current IT systems do not allow us to determine the exact number that have been retained by the unit unused.

<sup>10</sup> Ev 26-27

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[Jon Trickett Cont]

particular exercise. I have asked questions of both yourselves and the Department of Health to try to discover how many doctors, nurses, consultants you actually have on staff and how many reservists you have. So far I am not making much progress. I wonder whether you can help me?

(*Sir Kevin Tebbit*) Firstly, let me say that I would feel very uneasy about suggesting that it was not a good thing to have other countries with us on training and operations.

179. I am not suggesting that.

(*Sir Kevin Tebbit*) The co-operation with the Dutch is not just a one-off thing, this is part—

180. That is not the point I am making at all.

(*Sir Kevin Tebbit*) You did mention it at the beginning, so it is fair—

181. It is in the report.

(*Sir Kevin Tebbit*) I think it is fair for me to explain that this is part of an ongoing medical co-operation programme with the Netherlands and I think the phrase “only because” in the report may have led you to imply that this was somehow a derogatory thing or a bad thing. I think it is a good thing.

182. Is that something else you have not read properly as well?

(*Sir Kevin Tebbit*) No. I hope this hearing is to try to get a balanced view of what happened. I am here to assist you in understanding what the exercise was about. I am sorry if it becomes a conflictual thing, because I am trying to explain facts to you. The first point is that our relationship with the Netherlands on medical co-operation is something we think is positive in relation to our operations, not negative. Secondly, you were right, we are under strength in our medical services to a significant degree. It is one of the key priorities we have. Over a number of years we are putting about £350 million into improving our medical cover, improving recruitment and retention of nurses, consultants and specialists. It is also true that as part of our Strategic Defence Review in 1998, we took a decision that in future, we would not have quite as many people in the armed forces and we would rely more on targeted reserves, including reserves in the National Health Service. We provide our doctors and nurses in normal peace time to help the National Health Service and in times of operational requirements, not exercises, we take people from the National Health Service to meet surge requirements. That is the basis of the arrangement.

183. I certainly do not want to be conflictual. I am trying to hasten your replies, but in doing so, I see they actually get longer, so I shall try an alternative technique. I have asked a Written Question about the number of nurses, GPs, medical consultants and other health care professionals who are reservists. I wonder whether you could provide us with that information?

(*Sir Kevin Tebbit*) I shall be happy to do so.<sup>11</sup>

<sup>11</sup> *Note by witness:* I undertook to provide information sought in a written Parliamentary Question tabled by Mr Trickett about the number of nurses, GPs, medical consultants and other health care professionals who are reservists. This has now been provided (HC Deb, 28 October 2002, col 695W and HC Deb, 31 October 2002, col 883W).

184. There is clearly an interlocking set of questions about the work of your department and its impact on the Government's domestic agenda.

(*Sir Kevin Tebbit*) I shall be very happy to do so. At the risk of being extensive, may I add that I have a concordat between myself and the Permanent Secretary in the Department of Health in this area so that we move forward together.

#### Mr Rendel

185. You said earlier on that you took the hardest possible test you could find and that this was the most arduous exercise we could have set up. I think those are two quotes from answers you gave right at the beginning.

(*Sir Kevin Tebbit*) Yes; compared with the alternatives.

186. It seems rather odd, if so, does it not, that you were grading the environment as A3? Are A2 and A1 not harder?

(*Sir Kevin Tebbit*) Yes, they are.

187. So it was not the hardest environment?

(*Sir Kevin Tebbit*) No. The alternative exercise areas we had to consider were North America or Poland, the north German plain, so we chose the toughest one.

188. So not the hardest test you could face across the world, simply the hardest test area available to you.

(*Sir Kevin Tebbit*) No, I would venture to suggest that the southern Oman desert was probably about the hardest test you could possibly have found.

189. So why do you have an A2 and A1 grade if A3 is actually the hardest you can find anywhere in the world?

(*Sir Kevin Tebbit*) Actually the southern Oman desert turned out to be closer to A2, but you are quite right, we could have found different climatic conditions, but not really for tank warfare. Those also cover things like jungle warfare, Equatorial Africa, those sorts of things. It gets hotter in Sierra Leone for example.

190. They are not A2 and A1 necessarily.

(*Sir Kevin Tebbit*) I am not sure what Sierra Leone would be.

191. They tend to have rather higher humidity and the whole point about A2 and A1 is that they have even lower humidity, surely.

(*Sir Kevin Tebbit*) I think it is the heat, but I am not an expert on climatic conditions. For the sake of argument, let us take it that this was a very arduous environment in which to test our Joint Rapid Reaction Force concept.

192. I am sure it was and presumably it would have been even more arduous if you had done it in July or August.

(*Sir Kevin Tebbit*) Yes, it would have been.

193. So it was not really the hardest test you could have done.

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(Sir Kevin Tebbit) We had 2,000 people out there throughout that period planning it. One needs to understand the scale of this exercise; it was a very big event. For three and a half months we had a lot of people there.

194. I am sure it was, but you did say to Mr Williams that it was the hardest possible test.

(Sir Kevin Tebbit) In relation to the alternatives.

195. It took place in what you accept is not the hardest possible environment because you had harder environment gradings and you accept that you did not do it at the hardest time of year.

(Sir Kevin Tebbit) I should like to see the Armed Forces which are doing training of this kind in even more arduous circumstances I must say.

196. The design authority said that the filter life expectancy was 14 hours. When they decided that, what were they referring to? Were they referring to life expectancy if the tanks had the side armour on?

(Sir Kevin Tebbit) No, they were not.

197. So that was really expected to be the life expectancy in the very worst possible circumstances even if you exposed your tanks fully to all possible dust conditions.

(Sir Kevin Tebbit) That is indeed what was assumed.

198. In that case I really think I have some sympathy with the questions you were being asked just now by Mr Trickett about the contractual arrangements. Is there anything in that contract which says they have to meet those design specifications?

(Sir Kevin Tebbit) I honestly do not know. I have agreed to look into that.

199. When you set up these contracts for purchase of equipment do you normally say that if the equipment does not meet the design specifications there is some financial comeback to the armed forces?

(Sir Kevin Tebbit) Yes, indeed; there are various forms of redress which can be sought and it is part of the Procurement Agency's duty to be able to seek redress if they fail to meet specifications. There is a general point here.

200. You would expect there to be something in the contract.

(Sir Kevin Tebbit) Not necessarily, not in this contract.

201. You just said that was the normal process.

(Sir Kevin Tebbit) Yes, in current contracts that is the case.

202. There is a clause in there which allows for some financial comeback. So if you expect there to be a clause in there which allows for financial comeback and it is now some time since you discovered that the equipment did not work according to specification, why have you not looked into it yet?

(Sir Kevin Tebbit) The answer to that is that when we procured this tank, it is quite right to have observed that we did not specify full 'desertisation' of the equipment. A lot of things we bought in the past were bought for a different war a different concept and therefore we did not specify a range of performance criteria which covered the hottest possible conditions as well as the coldest conditions.

We tended to specify them for the north German plain. Today we specify much broader parameters for our equipment, so they have to operate in much wider conditions than before.

203. Are you saying that these filters were actually made to a higher specification than you had in your contract?

(Sir Kevin Tebbit) No, I was not saying that. I said that it may well be that they met the specification of the contract itself, which may well have been for more temperate conditions than this.

204. But you said they made it to last 14 hours in the worst possible conditions.

(Sir Kevin Tebbit) That is also true.

205. I am not sure. Are you saying that "the worst possible conditions" is what was in the contract or not what was in the contract?

(Sir Kevin Tebbit) Yes, the worst possible conditions for dust were 14 hours operations in complete dust conditions. I do not know. I am accepting your point, but if the point you are making is that we should go back to the manufacturer of the equipment and say they failed to meet the specification therefore they are liable, I shall answer your question that I have not, I must say, been advised on it. My guess is that we were more concerned to up the rate of the production of these filters.

206. That is a worry to me. It seems to me that as the Permanent Secretary it is surely part of your job, as the accounting officer, to make sure that where contracts are not met and there is a clause in there which allows some comeback for the taxpayer you actually exercise that clause.

(Sir Kevin Tebbit) I do not know whether they were in breach of the contract specification if these filters did not work in the particular conditions they found in the south Omani desert.

207. I understand that you do not know that and I understand and accept that you have now agreed to go back to that. My question to you was: why have you not done so up to now? It seems to me that you have had quite a long time to look into this and apparently it was only when Mr Trickett suggested it to you that you thought it was worth doing.

(Sir Kevin Tebbit) You are quite right. One's life is full of things one wishes one had done and it is one of the things I have not done. The amount of dust which was going over the engines and over these filters was huge and I would need to check whether that was the precise specification. You are quite right. One's life is full of regrets and this is one of mine.

208. Are we still dealing with PALL Aerospace?

(Sir Kevin Tebbit) Yes. They are the company which produces these filters.

209. Are we purchasing anything else from them?

(Sir Kevin Tebbit) They are the company which responded extremely well to our request to up their rate of production, which they did very well.

210. Are they providing anything else for the armed forces?

(Sir Kevin Tebbit) I do not know what else they provide.

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**Mr Williams**

211. Do we have any indication whether they would meet the 14 hours were that the specified minimum performance if you had the correct skirts and seals fitted to the tank? Do we know that?

(*Sir Kevin Tebbit*) It depends what you mean by correct skirts and seals.

212. That you would have deemed appropriate.

(*Sir Kevin Tebbit*) That is a very good question. If we had put these “desertised” features on the tank, then I have no doubt they would have met those criteria.

213. No doubt?

(*Sir Kevin Tebbit*) Yes. It depends whether they are taking 25 kilograms of dust going onto these filters. I am not sure whether the specification allows for 25 kilograms of dust to be going onto these filters per hour, which was a very, very high rate indeed. That is what they experienced.

214. Put in another note on this, will you, please?

(*Sir Kevin Tebbit*) I shall put in a note.<sup>12</sup>

**Mr Rendel**

215. May I go on to another remark you made which was that the side armour was not used in the exercise in case it was needed for a real-life situation which might have arisen at any moment during the course of the exercise.

(*Sir Kevin Tebbit*) Correct.

216. Which tanks would then have been used in the real-life situation?

(*Sir Kevin Tebbit*) The tanks which were not used on the exercise. I am not sure what proportion of our total tank force we took. Perhaps the General can help me here.

(*Lieutenant General Reith*) Effectively we took one battle group’s worth, whereas we have four armoured brigade’s worth with two battle groups each. Probably one eighth of the total Challenger 2s.

217. How much side armour do you have ready to go on these tanks?

(*Lieutenant General Reith*) That I do not know and I could not tell you in this forum anyway.

218. Presumably not enough to fit to all the tanks, all of the eight battle groups. You took one out of eight and presumably you do not have enough side armour for all eight ready and prepared to go on them if you need them.

(*Lieutenant General Reith*) Our defence planning assumption is that we would not deploy all of our armour at any one time.

219. Not even in an outright warfare situation?

(*Sir Kevin Tebbit*) It depends.

(*Lieutenant General Reith*) It depends what sort of war you are talking about.

(*Sir Kevin Tebbit*) Our defence planning assumptions—

220. I am slightly concerned that we appear to have a certain number of tanks ready to be used in an operational situation yet actually only some of them could ever have side armour on.

(*Sir Kevin Tebbit*) No, not “ever”. We operate on warning time and the Defence Review in 1998 set out various assumptions which were approved by the Government. One is that if we were to operate on full scale, mobilise everything, there would be sufficient warning time to up-armour, produce more, to equip our force completely. We are not working on short warning time for a full-scale war; in other words we do not judge the Russian threat to be imminent.

221. It would be useful to have a note of how much of the side armour is ready to go on the tanks if they are needed in an operational situation.

(*Sir Kevin Tebbit*) That may be quite difficult, but I shall do my best. This is a very difficult area.

**Mr Williams**

222. Difficult in a security sense or in a data collection sense?

(*Sir Kevin Tebbit*) This is purely in a security sense. We do not wish to give any information away which could be helpful to an enemy or an adversary at any stage.

223. Is it the sort of information you would give to our sister Committee, the Defence Committee?

(*Sir Kevin Tebbit*) We have not given it to the Defence Committee either.

224. No, they have not asked for it. If they did, is it the sort of information you would give to them?

(*Sir Kevin Tebbit*) I shall look into it and see what we can do.<sup>13</sup>

**Mr Rendel**

225. I understand that the side armour effect had been discovered on the Challenger 1; so the general was telling us previously. It was not known until after this exercise whether it would have the same effect on Challenger 2 because I understand you then went back and did another test.

(*Sir Kevin Tebbit*) We wanted to demonstrate this.

226. General Reith was saying earlier that a later test was done to make sure that it had the same effect on the Challenger 2. Would it not have been sensible to use this exercise to test that effect on the Challenger 2 rather than waiting until afterwards to see whether it had the same effect?

(*Sir Kevin Tebbit*) The armed forces decided not to do that and their rationale was to protect operational capability and because this armour we are talking about is extremely important and we do not want to damage it unnecessarily in anything other than an operational situation. That was why it was decided not to field it.

<sup>12</sup> Ev 26-27

<sup>13</sup> *Note by witness:* This is highly sensitive information the disclosure of which would not be in the interest of national security or defence.

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[Continued

[Mr Rendel Cont]

227. Not even on one tank, although later you did use it on one tank when you did your later test? You must be prepared to make a test with one tank as you did so later.

(Sir Kevin Tebbit) We did so later because we were acting on exercise lessons. Back again to a very basic point which I have not mentioned here. We do exercises and training in order to learn lessons, not to be perfect. We learned lessons there which we are now applying; 2,000 lessons throughout the exercise.

#### Mr Davidson

228. May I start by picking up some issues relating to the Container Handling Rough Terrain system in paragraph 2.23 and onwards? As I understand it, it is a five-year contract which maintains the vehicles in the United Kingdom and Germany. If it was within the last five years, as it must be, that is since the Gulf War. Why did you sign a contract which did not make any concession to the possibility of these vehicles going outside the UK or Germany?

(Sir Kevin Tebbit) That was where the contract ended. It is a lesson we have learned and we are now looking at extending the contract to operate elsewhere.

229. When did the contract end?

(Sir Kevin Tebbit) That was the contract. The contract is still in place.

230. When was it signed?

(Sir Kevin Tebbit) When was it signed originally?

231. Yes.

(Sir Kevin Tebbit) I could not tell you.<sup>14</sup>

232. If it is a five-year contract, it must have been signed since the Gulf War, which was 1992 or so. I just find it surprising that since the Gulf War the MOD was prepared to sign a contract which specified that maintenance of equipment would only apply to the UK and Germany. Can you just clarify that for me?

(Sir Kevin Tebbit) They are the places where the equipment is based, therefore the contract was organised accordingly. The exercise was a one-off activity. We have now learned from it that this also matters, so we are in the process of looking at extending the contract. It is a lesson we have learned.

233. Did it not occur to somebody at the time of signing this contract that this equipment might be used outside the UK and Germany, for example in a subsequent Gulf War? Can you understand my concern?

(Sir Kevin Tebbit) It was always a possibility that might happen, but I suspect the judgement was made at the time for cost-effectiveness reasons that it was not worth building in the extra cost for a global support contract.

234. That is interesting. Presumably the alternative was to maintain it in-house and there is an issue then about the public sector comparator which was used. Do I take it then that the public sector comparator which was used only specified the UK and Germany?

(Sir Kevin Tebbit) No, I do not think we did use a public sector comparator for this. It was taken off contract from the people who do these things. It is not unusual for it to be prohibitive to try to develop within the armed forces skills which are very, very specific and relate only to a very small number of equipments. It would have been very expensive. We only have one defence budget.

235. I understand that, but it was prohibitive to have the contract applying outwith the UK and Germany, so prohibitive that you did not do it.

(Sir Kevin Tebbit) I agree. We are now looking at extending the contract. It is a lesson we have learned, that this was a problem we experienced during the exercise and we are taking steps to remedy it. It was the lowest availability of any equipment.

236. Yes, I know that. May I come back to the question of the Omani desert. Earlier on you indicated that the situation was so severe in the south Omani desert that even the Omanis do not exercise there.

(Sir Kevin Tebbit) Yes, I have learned that subsequent to the exercise.

237. The point of exercises is to undertake what the social services department used to call "valuable learning experiences", but surely somebody ought to have clarified with the Omanis whether or not they ever trained in this area and discovered that nobody did it. If we discover that this is the only area of this type of desert which you are likely to find in the whole of the Gulf States, there is surely an issue there about whether or not it is an appropriate training environment. My anxiety is that we focused more on what happened in the south Omani desert, perhaps at the expense of the other parts of the exercise which were more typical.

(Sir Kevin Tebbit) That is true; that is right.

238. From which more appropriate and significant lessons might have been learned. Can you understand my anxiety?

(Sir Kevin Tebbit) Yes, I can indeed. The basic answer is that one is also in the hands of the Omanis in these things. One has a bilateral discussion, negotiation, to agree on areas which would be available for us, to agree on various things, which imparts a certain degree of inflexibility and artificiality to the exercise. Some of those parameters may actually be harder than it might be in ordinary operations. Where we had to do our exercising first, in the south Omani desert, was one of those aspects. The other thing was a strain on the communications, where we had to provide the communications for them as well as us. We had to do it for both sides when one would usually only do it for one. I think that is the reason.

(Lieutenant General Reith) In the negotiations with the Omanis, clearly they were very sensitive of the impact on their environment and their people. The area they offered for that period of training was in that southern region. As it transpired, we found later that they did not exercise on a normal basis in that area themselves, but they did exercise with us on the final phase when we combined with them in the last phase of the exercise in that same area. On a normal basis they did not, so we found afterwards.

<sup>14</sup> Ev 27

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[Continued

**[Mr Davidson Cont]**

239. That was a valuable learning experience again then.

(Lieutenant General Reith) Absolutely.

240. I have a bridge outside that I would like to sell you. May I just clarify whether or not you believe that all lessons have been learned? Can we take it that if we have a future report of an exercise, errors or failings in equipment will be discovered but they will be different ones and we will not be learning the same lessons again? I am a bit concerned that we do not just go through the whole process over again.

(Sir Kevin Tebbit) That is a very good point. We should have learned more lessons and sustained them better. What we have done as a result of the exercise and the 2,000 lessons learned is that we now have a six-monthly rolling process of updating action taken in relation to exercise lessons. That is done by the General here, the Permanent Joint Headquarters. There is also an 'outside-the-chain-of-command' audit done by what is called the Director of Operational Capability (DOC). DOC does this audit separately to make sure that it is happening. In addition the front-line commands—this is where the Permanent Joint Headquarters come in as a challenge element—are also applying their lessons. We now have this six-monthly rolling programme to make sure these things happen.

241. In a sense, all I need to know is that in future new failings will be discovered rather than the same failings again. Do I have that assurance from both of you?

(Lieutenant General Reith) I now run a database of lessons identified and we have been doing it for some time since the HQ was formed six years ago. The lessons identified come from exercises, operational deployments and so forth. I also draw the front-line command lessons identified as well. We hold that database and what I now do every six months is submit what is called a joint warfare equipment priority list into the MOD. We extract from that database the most pressing things we need to get right for Joint Rapid Reaction Forces.

242. We have to go to vote, but while we are voting, perhaps you might like to have a look at this bridge.

(Lieutenant General Reith) I should be intrigued.

*The Committee suspended from 17.54 to 18.01 for a division in the House.*

243. May I turn now to the question of the SA80? I certainly had it jam on me, so you have been exceptionally lucky, Sir Kevin. May I ask why some examples of the modified SA80 were not used in this exercise? I understand that there is a relatively small number of them, but I should have thought it would have made sense, given that you had an exercise going on, to try some of them at the time.

(Sir Kevin Tebbit) An interesting point. I still worry about the inference that we should have been using this exercise to try to do everything. We did not need the exercise to test the SA80, that was being done quite separately.

244. So nothing went wrong with the modified one in Afghanistan then. You are not re-modifying it again.

(Sir Kevin Tebbit) As I explained, the one in Afghanistan was in fact the modified gun. As the general has explained, the problem was not the rifle itself, the problem was the maintenance regime, which was not being followed because we had not issued clear enough guidance to the operators.

245. Would it not perhaps have been helpful to have found that out in the exercise we are discussing here before men had it in combat in Afghanistan?

(Sir Kevin Tebbit) We did not realise that they were unaware that the answer was to put more oil down the barrel.

246. You would have discovered that had you exercised it in the desert during this exercise.

(Sir Kevin Tebbit) We might have done or we might not.

(Lieutenant General Reith) The SA80 A2 rifle went through a very rigorous trial system where it was trialed in all conditions. We did not feel we needed to exercise it in Oman.

247. Okay, I can understand that. May I turn to the question of personal equipment and in particular the issue of the melting boots and so on? We have had discussion over a long period in this Committee about the way in which individual servicemen feel the need to purchase their own boots because the MOD stuff is not satisfactory. I do remember that you did dispute the issue of whether or not the boots melted. Could I just refer you to paragraph 2.43, the second bottom line, where it says "... regularly over 45 degrees, boots were melting". This is a report to which you signed up. If you did not believe that boots were melting, then you should not have agreed to this being there. In here there seems to be a whole litany of examples where the clothing seems not to have been adequate, boots were not good enough, tents were not suitable and it is almost as though all the focus were on the high tech equipment but not sufficiently on the personal equipment as used by the individual serviceman. While I appreciate that the additional phone calls were a bonus, that is not sufficient to balance the poor quality of equipment.

(Sir Kevin Tebbit) We do keep clothing under very careful and close review. I do not want to say anything that would imply we are complacent about that, we are not. We are continually trialing new equipment to see whether it is better. Indeed when the exercise took place, we were moving from cotton-rich to polyester-rich Combat 95, because it was tougher and we thought that would be more useful. We have learned that maybe people get too hot in the polyester stuff. We may look at changing the specification so that desert combats are brought into effect in conditions where normally we would have used the standard issue. On the boots, my understanding is—and I should be grateful if the General corrects me if I am wrong—that the boots which caused a problem, were not actually proper combat boots, but were chukka boots for use in the headquarters, for sitting in offices, which some people may have taken out into the desert and tried to use there. My understanding is that the ones which melted were the wrong ones. They should not have been used in any case.

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[Continued

**[Mr Davidson Cont]**

248. The reason I raised the issues before about lessons having been learned was do I take it that we are never likely to get this again then, these issues of inadequate personal clothing, inadequate boots? Effectively there should be no need for servicemen and women to be buying their own equipment.

(*Sir Kevin Tebbit*) You will always find individuals who will want to have their own thing. Soldiers are no different from other people about preferring one sort of thing or another. What I can assure you about is that the quality of the clothing we have and are continuing to develop is always measured against the highest standards. The General wears the stuff. He knows better than I do, but I am really not aware of defective clothing.

249. It is a bit like your SA80 which works all the time: the General's clothing is not necessarily of the same standard.

(*Sir Kevin Tebbit*) The General really is the expert on boots, not me.

(*Lieutenant General Reith*) In the conditions we were expecting, the normal boots would have met specifications. In fact people wore those boots throughout and most people had no problems at all with their feet. We made a conscious decision not to issue desert boots for everybody; part of it was expense because once you have issued that pair of boots to a chap, he may never operate in the desert again, but for an exercise where some people were there only for a few weeks, it was not cost-effective so to do. We issued the boots to those who were going for the prolonged period during the hottest period. We were not expecting temperatures outside the range of the normal boot during the period.

250. Do I take it then, if troops should be sent to some destination unspecified in the Middle East in the foreseeable future, that we will not have reports coming back of unsuitable footwear and clothing?

(*Sir Kevin Tebbit*) I cannot promise you will not get reports; you might still get reports. I can give you an assurance that we do not lack stocks of desert boots.

251. With respect, that is not really the point.

(*Sir Kevin Tebbit*) I am just following the point the General has made. We took a decision not to issue large numbers of desert boots on this exercise, but we do have them.

252. You believe that the equipment you have is satisfactory, and if troops are deployed in numbers they will have it and we will not have complaints coming back. You will always get some complaints about something, but in general terms complaints made will have little foundation.

(*Sir Kevin Tebbit*) I hate to predict the future but you are right. This is another example where, for an exercise, we took a judgement. It is not the same as operations. We have stocks, we can use them. If we have a different scenario where there is plenty of warning time we can increase stocks, as we can do with almost anything.

253. May I come to a sub-point which has not been mentioned all that much and that is the foreign policy objectives of this exercise? What is the population of Oman?

(*Sir Kevin Tebbit*) I would not know.<sup>15</sup>

254. One of the objectives was to develop bilateral relations with Oman. These are the people who sent us to the wrong kind of desert. I am reminded of the Albanians who used to say that they and the Chinese were three billion strong. Oman is hardly the most essential of our allies in the Middle East. May I just clarify what positive spillover there has been in terms of sales of military equipment? Do you think that the exercise that we undergo here, which highlights the failings of British military equipment is counter productive in those terms, or is it the case that those who are professionals in the field are going to hear about failings of equipment anyway and therefore there are no disadvantages to same as operations. We have stocks, we can use them. If we have a different scenario where there is plenty of warning time we can increase stocks, as we can do with almost anything.

(*Sir Kevin Tebbit*) This report was not about failings of British equipment. This report is about the quality of the test we put our equipment through and the lessons we learn. I believe our equipment is as good if not better than anybody else's and if you do not believe that ask the other armed forces which we have to work alongside or fight and they will tell you that British equipment is very effective indeed.

255. So they are buying it.

(*Sir Kevin Tebbit*) That is the first point. The second point is that the Omanis are very important allies and they have been for a long time. They are probably the most important military power in the Gulf, among the Gulf states. This exercise has tended to put them in a stronger position because they gained from this exercise as well as we did. That is basically in line with our foreign policy, which is to sustain strong relations with the Omanis, a kingdom with whom we have very close relationships indeed and have done over a long period of time and still maintain a large liaison team with them. In terms of sales, it was not an exercise objective to try to promote British defence exports through this exercise. We do that very effectively in other ways and we are the second largest exporter of defence equipment worldwide. This is another reason why I wanted to try to put the report into context. Just because we exercise and train with our staff to the extremes that we can, does not mean to say it is not good equipment; usually it means it is the best.

#### Mr Williams

256. Did you not play down somewhat the problem of the boots which Mr Davidson focused on? It says in the report that foot rot was not an issue but a major issue. That really underlines it as being very significant. You tended to treat it as though it was rather occasional and a matter which we did not need to consider.

(*Lieutenant General Reith*) One of the lessons we learned very early on in the exercise and put right very quickly was that many of the troops who were deployed had not experienced difficult conditions such as that ever and of course it is 11 years since we last really did anything in the desert training-wise in

<sup>15</sup> Note by witness: The population of Oman is 3.3 million.

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[Mr Williams Cont]

that sort of heat and those conditions. For many years now we have been doing peace support operations where the soldiers have been working and living out of quite good quality accommodation. There they were living off their armoured vehicles for much of the time and therefore field discipline is very important. The lesson we learned was that they were not applying what I would call normal field discipline. The older amongst us who have done all this before automatically take off our boots every day, wash our feet, change our socks and powder our feet and you do not get foot rot whatever boots you are wearing. This was just a basic lesson which was picked up quite early. We had quite a few people in the early stages who were getting foot rot. Once we had rectified it, there was no problem.

257. Are there not slight water problems in the middle of the Omani desert?

(Lieutenant General Reith) There are always water problems in the desert, any desert. You do not need a lot of water to wash your feet. You can actually wipe them with a flannel with clean water on it.

**Mr Bacon**

258. I think the boots issue has been covered and I do not wish to ask you much more about the washing of soldiers' feet. You did say that there were 2,000 people in the buildup period.

(Sir Kevin Tebbit) Yes.

259. For three years.

(Sir Kevin Tebbit) Not for three years. We sent 2,000 to Oman as the advanced party.

260. How long were they there beforehand?

(Sir Kevin Tebbit) They were there for about three or four months at a guess.

261. Am I right in thinking that we have British forces on a small scale, advisers and so on, in Oman pretty much all the time?

(Sir Kevin Tebbit) Yes.

262. There is a very helpful map here at the front of the report. With the very helpful scale you have supplied I worked out that Oman is some 250 kilometres deep at its narrowest up to about 450 kilometres and about 900 kilometres long. It is not a particularly large country. I would have thought that if you have people there all the time and in the buildup these several thousand people . . . I think I am right in saying, am I not, that we have historically supplied senior officers to the Royal Omani forces, that people sometimes leave the British Army and go into the Royal Omani Army? That has been a long-standing thing, has it not?

(Lieutenant General Reith) It has changed over the years. We do have people there on loan with them, but there are no people on contract—

263. What I am trying to say is that there has been a long-standing relationship.

(Lieutenant General Reith) Yes.

264. What I find staggering about what you said a minute ago in answer to an earlier question is that you found out subsequently that they do not normally exercise in the south of Oman. How could you have all this relationship over such a long period

of time, advisers there all the time, thousands of people there months before this exercise started and nobody said, "Oh, chaps, where do you normally exercise?"

(Sir Kevin Tebbit) But you see—

265. I am sorry, I was asking the general.

(Sir Kevin Tebbit) But I was just going to answer. I am not implying—

266. Sir Kevin, would you mind if the general answers my question.

(Sir Kevin Tebbit) Okay, but that decision was not necessarily for the general.

267. What am I missing?

(Lieutenant General Reith) What you are missing is the fact that the people who work with the Omani Army do not work for us. They go there for a period and for that whole time they are working under the Omani Army.

268. Are you telling me they do not come back to the Cavalry and Guards Club, have a gin and tonic and say "Oh, we were exercising in the south"?

(Lieutenant General Reith) They are on loan to the Omanis, they wear Omani uniform and they are part of the Omani Army.

269. I find it literally incredible that you could not have known until after this thing had got going that the Omanis do not normally exercise in this area. Is it not just something you find out in the course of your travels?

(Sir Kevin Tebbit) That is not necessarily a reason for not exercising in that area.

270. I did not say it was, but the fact that you did not know had an impact on the kind of sand and that had an impact on the success of the project.

(Sir Kevin Tebbit) You are still misunderstanding what constitutes success or failure of the project.

271. Let me just read you something which Lieutenant Colonel Millen of the Royal Dragoon Guards said. He is talking about 'just-in-time' delivery of parts like air filters. He said that that kind of delivery does not work if you are talking about strategic level deployment. He is contracted to provide combat power and was not able to do so because in spite of the best efforts of the logisticians of all ranks on the ground the logistic flow did not get to him. He had massive frustrations. He goes on to talk about the problems and concludes that the problem was the air filters and in particular, even when the air filters were available, getting them to the right place. They wondered why the Omanis did not have these problems and they concluded that the problem was that the Omanis, as well as having slightly modified tanks, had a different kind of skirt, the skirt which is referred to here, which would cost you only £460,000 to get right.

(Sir Kevin Tebbit) We have discussed skirts already and appliqué armour. Had we been in an operation, we would have had that arrangement. It is also the case that the British Army does not just operate in Oman or the Middle East. It also operates in Europe, in the Balkans where we have extensive forces and therefore we have to cater for a range of possibilities rather than just one. We had not judged that it was

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necessary to 'desertise' a proportion or indeed all of our force. As I said before, that proved to be a judgement we need to review and we are reviewing it.

272. Indeed you should have done.

(*Sir Kevin Tebbit*) I do come back to success criteria. The NAO report tells you that by the standards we set for our exercise it was a success. We met all of the objectives. One of those objectives was to put our equipment and our people through very arduous training conditions and see whether they could actually fight in those conditions. The answer was yes, they did.

273. Lieutenant Colonel Millen says he could not.

(*Sir Kevin Tebbit*) Well then he disagrees with the Chiefs of Staff.

**Mr Rendel**

274. I have occasionally driven across deserts, indeed I did so only about two weeks ago. I always find in desert conditions that on the whole an air conditioner is probably more useful than a heater. It appears that some of the vehicles which were used in this exercise actually had to turn on their cab heaters in order to keep the engines cool. Can you assure us that if we are to go to war in any Middle East state, hypothetically during the next year, we would not be using any vehicles in which they had to turn on the cab heaters whilst crossing a desert in order to make sure the engines were kept sufficiently cool?

(*Sir Kevin Tebbit*) No, I cannot give you that assurance. I can talk about the equipment. The Land Rovers, the new equipment we have, work absolutely superbly and you have seen in the report 95% availability of Land Rovers. They are absolutely brilliant. The new equipment we are bringing into service performed extremely well indeed. The problems we had were these so-called B vehicles, which are 25 years' old, which we have given a life-extension programme to, which are due to be replaced in 2004–05, which will not all be replaced in that time. Meanwhile we shall have to use them. For old vehicles they perform very well.

275. So for the next three or four years at least we may have to have vehicles being used in deserts where you have to turn on the cab heater.

(*Sir Kevin Tebbit*) I think that is anecdotal. It may or may not be true. I do not think that was the general experience, but it is an interesting observation.

276. When the armed forces procure equipment, what efforts do you make to purchase equipment which is usable anywhere in the world in its own right, flexible enough to be used in all environments? Or, if you cannot do that, and I can understand how different environments may require different specifications, what efforts do you make to make sure that the equipment you buy can be modified quickly and easily in order to make it usable in conditions which are not those for which it is primarily designed.

(*Sir Kevin Tebbit*) Since 1998, since the Defence Review, we now look at much wider projection of our armed forces than before and the new contracts for equipment which we are now issuing, the new plans we are working on, specify a much wider range of environmental tolerances. The issues you are essentially talking about are legacy equipment which

we already have, which was produced for the north German plain, Cold War period, where we have to modify. Modifications are available and are quite straightforward to do and are not onerous if you are fighting a war.

277. Anything which you are procuring new now will either be usable in all environments or will be easy to modify.

(*Sir Kevin Tebbit*) That is right. That is absolutely correct. Even the legacy stuff is not that difficult to modify, it is just that it costs money and we have to make judgements.

278. The final question which I cannot resist asking you. Is Gerri Halliwell your favourite entertainer?

(*Sir Kevin Tebbit*) Me personally?

279. Yes.

(*Sir Kevin Tebbit*) I have to say no.

280. If not, how was she chosen? Who does the choosing and do the troops have any say in the matter?

(*Sir Kevin Tebbit*) I do not speak for the troops. It may be that they have a different view. I do not know.

281. Do they have a say in the matter?

(*Sir Kevin Tebbit*) I do not think they chose Geri Halliwell. I suspect this was something dreamed up, perhaps by you, General?

282. Did you choose her, General?

(*Lieutenant General Reith*) I had never seen her before, but I did see Geri Halliwell.

283. Is that why you chose her, because you had not seen her before?

(*Lieutenant General Reith*) No, I did not choose her. The Services Sound and Vision Corporation (SSVC) sponsor these shows on our behalf and they choose. In fact there was Geri, but also Steps, who were the top number one group within the UK at the time. I can tell you that every soldier loved the show.

284. They do not actually have a say in who comes. It is chosen for them.

(*Lieutenant General Reith*) It is a matter of who one can get through the entertainment industry and SSVC are much better at getting that sort of thing than we are.

**Mr Williams:** They do have a say in whether they attend or not.

**Mr Osborne**

285. In questioning from Angela Eagle you accepted that not everything was tested in this exercise. I just want to pick up on a couple of things which were not tested. The first was the Nuclear, Biological and Chemical Defence Regiment which it says in this report you decided not to deploy because of regional sensitivities, which I of course accept. Obviously that is quite a crucial consideration, particularly at the moment. How are you trying to integrate their work into the general deployment of the Rapid Reaction Force?

(*Sir Kevin Tebbit*) We do test that in other exercises and have done so. In fact we tested it very fully in Exercise Bright Star in 2001 and on other occasions. In other words, this is not the only exercise we do. We

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are satisfied that it works well, indeed it leads other countries. We have a better NBC capability than any other country we know and we are planning to increase that capability.

286. That is good to know. The second thing I think is probably more integral. You are probably able to bolt on the NBC thing but I do not know. You did not really operate with close air support in this exercise. Is close air support not absolutely integral to modern war fighting?

(Lieutenant General Reith) We did. Because of the real world situation some of the Tornados had to be moved to a real world task, but we still had the GR7s, the Harriers, operating during the period of the exercise in Oman for the exercise.

(Sir Kevin Tebbit) I did see close air support happening when I was out there.

287. I am quoting from paragraph 1.31 which says, "...the impact of arising concurrent operations on air and maritime forces meant that planned elements of their involvement in the Exercise, such as anti-submarine warfare and close air support, had to be abandoned. The participation of Special Forces... was also restricted". It just strikes me that of all these things, submarines, use of Special Forces, air support are the sort of bread and butter of military operations. If you say there were exercises involving air support—

(Lieutenant General Reith) One type of aircraft was moved because it was needed for specific tasking.

(Sir Kevin Tebbit) It was not fully exercised, but I think we are pretty satisfied about our close air support operations in Afghanistan. We have tested close air support quite a lot in an operational context.

288. Obviously one can envisage that a lot of that air support in operations is provided by the United States of America. There were unfortunate incidents in the Gulf War. We could debate whether those were avoidable or not. Are you now pretty satisfied that our troops can work in close air support with the United States?

(Sir Kevin Tebbit) Yes, I think so. It is outside this exercise scenario, which is why I am thinking quite carefully. We do have very detailed arrangements now with the Americans for ensuring with tactics, techniques and procedures that we deconflict from those sorts of problems. They are never completely removed, they cannot be, from the battlefield, but we have done a lot of work with them to minimise the risks to our own forces.

289. The general was in charge of deploying this Rapid Reaction Force.

(Lieutenant General Reith) We had tactical air control parties which go with any of the formations we deploy, who are our link to the air. They exercise regularly with all allies within NATO so that we can actually control the air. We work with the Americans in particular on a regular basis.

#### Jon Trickett

290. I just want to move on to something entirely different. I shall try not to be conflictual on this occasion. I want to try to understand the business of command and control. I notice that paragraph 2.3 states, "...the Exercise demonstrated that a

medium-scale operation of this nature could be managed successfully". In paragraph 1.27 I note that the command and control structure was an ad hoc arrangement because the standing Joint Force Headquarters had been moved to Florida as a result of the operation in Afghanistan. This leads me to two questions. The capacity of your command and control structure to deal with simultaneous operations in two separate theatres of war, particularly where one operation might be of a larger scale than the one we are dealing with here. I am conscious that I am asking these questions in open session, so I might be treading on dangerous ground. I do not know. It does seem to suggest that we would be well stretched, perhaps over-stretched if a conflagration re-emerged in Afghanistan or Kosovo or somewhere whilst we were dealing with the larger scale operation. What are the implications for command and control?

(Sir Kevin Tebbit) I shall ask the General to answer in detail but this is one of the very positive lessons from the exercise. After the Strategic Defence Review, we set up these arrangements to provide flexible ways of doing command and control, so we do not just have one form of headquarters that we can put into the field, we have several permutations of headquarters which can be fielded simultaneously if necessary. We demonstrated that when we went off to Afghanistan for real, concurrent with the exercise Saif Sareea II. One of the best lessons we received and a positive one was that we do have a very flexible concept in our Joint Rapid Reaction Force, which enables different formations to provide operational headquarters, depending on the size and scale of the task, concurrently. That was the plan and I think that works. The General can tell me whether it does or not.

(Lieutenant General Reith) We work different styles of headquarters. We can work with the Joint Force Headquarters on its own, that is a fully worked up and trained headquarters, or we can use it to reinforce another headquarters and so forth. On this particular exercise—remember that the real world situation developed as we were going into the exercise—I made a judgement that I needed the Joint Force Headquarters elsewhere. We stood up 1 Mec Brigade headquarters, who went out and did the task that the Joint Force Headquarters was meant to do. They had been trained by my people and I kept back some elements of the Joint Force Headquarters to give them added depth and because it was slightly larger than their normal headquarters requirement in Oman. They went in and reinforced them. That actually went in and worked very well. In terms of the operational strategic level communications, of course the difference here from a normal operation was that not only were we running the communications to both sides of the forces, two lots of forces who were opposing each other, but we had to put in the whole control structure as well, with all the umpires and everything else. I was effectively using three lots of communications, where I would only normally be using one. It worked. It was stretched at times, but it did work.

291. We have talked about the problem of communications elsewhere during this session. I am more interested in command and control rather than

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[Continued

**[Jon Trickett Cont]**

communications. I did refer to this question of medium scale rather than large scale. Can you give us an assurance that if a real operation rather than an exercise were to take place and perhaps there were two theatres of war in different parts of the globe—and it is not difficult to conceive, that could easily happen—what then happens to command and control structures?

(*Lieutenant General Reith*) At the time of Saif Sareea last year I was running eight different operations around the world and communicating and commanding and controlling. At the moment I am actually much less than that.

**Jon Trickett:** So paragraph 1.27 which raises my eyebrows, should not raise my eyebrows really. I think I have made my point.

**Mr Williams**

292. A section we have not looked at at all, paragraph 2.10. We know how important morale is for troops and this deals with welfare and provisions and the new operational welfare package which was tested for the first occasion on this exercise. I understand that it met expectations as far as the static troops were concerned, for understandable reasons, but there was less enthusiasm amongst those who were mobile, tank crews and so on and that you have been reviewing the guidance. Are you in a position to give us any information on that review or would you like to put up-to-date information in as a written note to us? Perhaps that would be better.

(*Sir Kevin Tebbit*) We should be very happy to.<sup>16</sup> We regard it as a successful trial. Any weaknesses there were more about making sure that the people who were deployed got the same package rather than that there was a different package which should be brought forward. It is really a question of making sure that those who are in the remoter areas get delivery of the provisions in our existing operational welfare package rather than changing the package.

293. But you are issuing guidance addressed to that.

(*Sir Kevin Tebbit*) Indeed.

(*Lieutenant General Reith*) My headquarters have been working on this. We are recommending different scalings for the mobile troops so that when they do stop, we are able to get Internet connections as well as telephones in to them very quickly and then have different scaling so that they can spend more time on the telephone, that is using up the periods when they would have been travelling. They will get the same allowances.

294. Thank you very much, that is helpful. Earlier in the year we did a hearing on combat identification, friendly fire. We remember the sad incidents in Desert Storm and there have been one or two in Afghanistan. In this report we were told that 10 to 15% of casualties traditionally are from friendly

fire;<sup>17</sup> in an attack situation that can rise to 22%. Have we made any advances? I remember in the Kuwait war that we lost some armoured vehicles which had white crosses on the back. In the context you are talking about a tank going along throwing up a lot of dust and an aircraft coming in at high speed with rockets, are we any further ahead than we were when we had the evidence earlier this year?

(*Sir Kevin Tebbit*) I do not think the General was at the previous hearing, so he is not fully aware. I think this was historic data and at the time we questioned whether that would be the case in real conflict. It was the result of this rather strange recent event. Unusually, in the Gulf War there were very, very few casualties of any kind and therefore it made the figures seem much more serious because nine of the 16 or 18 people who were killed were the result tragically of friendly fire. We do not have data of large-scale warfare activity to be able to validate 15% or 22%, so those figures seem—

295. This contained a lot of American evidence, if you remember.

(*Sir Kevin Tebbit*) They are not figures that we would recognise or anticipate. In that hearing we had showed a degree of difference between us, where we were arguing on our side that the vital thing in combat was to minimise the casualties from whatever cause and to ensure that we used manoeuvre concepts to reduce the risk that our people would suffer losses, whether it was from the enemy or from friendly fire. Above all, the thing was to keep the number of casualties down and that still is the thrust of our work.

296. I seem to remember that at that hearing we were way behind the Americans who were employing much more in terms of electronic devices to protect their armoured vehicles and other vehicles from friendly air attack. I assume we have not got much further on that.

(*Sir Kevin Tebbit*) We did talk about the importance of situational awareness rather than simply Target Identification systems. We are fielding SIFF, which is an identification of friend and foe system, throughout our forces.<sup>18</sup> It will not provide us with total situational awareness. I do not have the details here because I was not prepared for this particular hearing, but you are right that the Americans do have more situational awareness than we have. That is where we are going, that is where we are planning to go in the future. Meanwhile we do use tactics, techniques and procedures to minimise the risk of friendly fire incidents. There is also work going on in NATO for common standards and working with allies is always tricky. We have made particular effort to work very closely with the Americans in 'deconfliction'.

(*Lieutenant General Reith*) Mr Trickett mentioned command and control. Control is one part of this and by putting in very simple measures like fire support co-ordinating lines, whereby nobody is meant to engage from the air one side of a line or another, you

<sup>16</sup> *Note by witness:* Proposals to address the need to better deliver the Operational Welfare Package to mobile land forces should be finalised in the next few weeks. These will then be the subject of further staffing within the Department. The proposals will aim at improving the delivery, including speed of delivery, of welfare services (including access to communication) to mobile land forces.

<sup>17</sup> *Note by witness:* Actually, the total number of casualties killed during the Gulf Conflict was 15, of which nine resulted from friendly fire.

<sup>18</sup> *Note by witness:* This system is designed for air to air, ground to air and maritime environments.

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[Continued

[Mr Williams Cont]

can put controls in. We were applying those during the Gulf War and there is no doubt that there was an error by a pilot where he engaged well inside the fire control line, our side of it, which he should not have done. He was tired, it was his third mission and he saw an opportunity through a cloud and he thought it was enemy. It was an individual's misjudgement rather than anything else. By and large the control lines do protect our ground forces.

(Sir Kevin Tebbit) Those are the training and procedures I was referring to.

297. Very last question of the session. You made considerable comment about the new combat outfit in polyester. Earlier this year I seem to remember advice from airlines to passengers was not to wear synthetics but to wear natural fibres because they found that in the case of aircraft fires many people suffered injury from synthetics melting on their bodies and causing extensive skin burns, whereas they might have escaped those with natural fibres. I suppose it is a trade-off as to advantage and benefits.

(Sir Kevin Tebbit) It is true that now we have the polyester-rich combat fatigues, which were chosen because they were tougher and harder wearing, they

do not breathe as well as the cotton-rich combat fatigues used previously. We are always trying to get this right. It is that difference which is leading us to evaluate the temperatures at which people should operate in. Maybe we should cap the polyester-rich version at 39°C and issue desert combats which have better breathing capability for conditions above that. We are certainly on the case. I had not thought of the fire hazard issue. I do not know whether it changes our judgement, but we are happy to build that into the assessment.<sup>19</sup>

Mr Williams: May I thank the three of you? It has been a really interesting hearing. We may have clashed, but that is because we genuinely want to get the answers and I am sure you genuinely want to provide them. We look forward to the written replies you have promised and we look forward to the next time we see you. If your two colleagues are lucky, they will not have to accompany you.

<sup>19</sup> Ev 27

## APPENDIX 1

### Supplementary memorandum submitted by Sir Kevin Tebbit KCB CMG, Permanent Under-Secretary of State, Ministry of Defence

*Question 33: Did the Department take that [the stipulated thermally-stable plastic tubes] out of the specification when the order was placed?*

The thermally stable plastic tubes referred to relate to the plastic tubes that make up the main body of the "Main Engine Air Cleaner Cyclone". Each AS90 has one Cyclone. These tubes are still present and were not removed at any time from either the design specification or the AS90. The Cyclone was "thermally stable" for A2 conditions (ie temperatures below 44°C). Although the environmental conditions on Exercise SAIF SAREEA were not anticipated to be any higher than A2, actual temperatures reached A1 conditions (ie 49°C) and higher.

The Department is currently working with the AS90 Design Authority (BAE SYSTEMS) on a desertisation kit that will enhance AS90's performance in A1 conditions. One particular area for this enhancement relates to the Cyclone with manufacture of the Cyclone's 'plastic tubes' from a more thermally stable material. The Design Authority have now identified a replacement material that will meet the requirements for operating in A1 conditions.

*Questions 169–176 and 211–214: Do you have a contractual relationship with them [PALL Aerospace]? Have you considered whether they are in breach of contract [regarding the Challenger 2 filters]? Do we have any indication whether they would meet the 14 hours were that the specified minimum performance if you had the correct skirts and seals fitted to the tank?*

The contract for Challenger 2 filters with PALL Aerospace was for a part number specified by the Challenger 2 Design Authority, Alvis-Vickers Ltd. The Department makes purchases as and when extra stocks are needed ie 'x' quantity of the part number 'y'. This is similar to the way in which the ordinary consumer buys spare parts for a car; it is not a contract for a special purchase.

The life expectancy of the air filters is laid down in a British Standard (BS)—BS1701. This British Standard gives a life expectancy of 14 hours (a battlefield day) in zero visibility conditions: that is 1.412 gm/m<sup>3</sup> of dust concentration. The CR2 filters meet this requirement. The filters did not perform poorly—rather, they were used in conditions that exceeded the British Standard definition for zero visibility, and therefore, beyond those for which they were originally designed. However, they performed tolerably under these conditions, albeit at a higher rate of usage. Under the circumstances, the Department does not consider it would be appropriate to seek redress of the contractor.

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[Continued

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On the question of whether the filters would have met the 14 hour standard had the tanks been desertised and fitted with features such as side skirts and seals, it is not yet possible to give more than a general assurance. But when the data from work carried out to trial various desertisation options has been fully analysed, the Department should be in position to offer a more precise view on the likely improvements to be gained from fitting skirts and seals.

*Questions 230 and 231: When was it [the contract for the Container Handling Rough Terrain (CHRT) system] signed?*

CHRT came into service in late 1997 and is made by SiSu in Sweden. SiSu and Kalmar are part of the same organisation and for the last four years the 13 CHRT currently in service have been under warranty to Kalmar. This warranty has now expired and the Department set up an enabling contract for specific or specialist repair with Kalmar last month (October 2002).

The Royal Electrical and Mechanical Engineers (REME) provide day to day repairs and general maintenance for CHRT at unit level. Where more substantial or specialist repair is required this is then passed to the Army Base Repair Organisation (ABRO) who contract out as necessary within the UK or Germany. This is the same repair chain that operates for the majority of vehicles or equipment assemblies.

*Question 297: I suppose it is a trade-off as to advantages and benefits [of the new polyester combat outfit given that airlines were advising passengers to wear natural fibres to minimise the risk of injury from aircraft fires]?*

Fabrics made from 100% cotton, 35% polyester/65% cotton mix, or 65% polyester/35% cotton mix will all burn at roughly the same rate. The speed with which these burn depends on the degree of heat applied and the thickness of the cloth. Polycottons (fabrics containing a mix of polyester and cotton) are widely used for both civilian leisure/workwear and military clothing because of their comfort and durability and they pose no greater or lesser a flammability risk than clothing made from 100% cotton.

Apart from flame being applied to bare skin, burns are caused by the penetration of radiant heat through clothing to the skin and the severity of the burn will depend on the temperature of the heat challenge and its duration. Protection for a short period (measured in seconds, not minutes) can only be gained by providing some form of insulation either by wearing thicker clothing or, better still, multiple layers that also provide additional insulation in the form of air gaps. Flame Retardant (FR) coatings work by forming a charred surface on the fabric which itself becomes more difficult to burn. FR coatings do not provide any protection against radiant heat. The latent heat of fusion of polyester (the heat released as it melts and then solidifies) is not sufficient to increase burn injury significantly. Medical personnel with experience of burns treatment in operations do not support the view that the melt of synthetics onto skin significantly complicates medical treatment. Burns involving synthetic material result in a 'cleaner' wound than those involving natural fibres.

Operational analysis has shown that the soldier on the battlefield faces a minimal risk from purely burn injuries, the principal damage being from blast and fragmentation. As mentioned above, protection from burns can be gained through greater insulation but this will decrease mobility, increase the physiological load and, when wet, the soldier may face a greater danger from cold injury as his/her clothing dries using body heat. FR coated clothing can be more uncomfortable to wear because the coating tends to stiffen the cloth but it will not protect from radiant heat. A Defence Clothing programme into flame/fire hazard carried out by Porton Down three years ago recommended that material of up to 70% synthetic content could be used in operational clothing worn by Land Forces.

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Permanent Under-Secretary of State  
Ministry of Defence

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