

# The Private Finance Initiative: The Contract for the Defence Fixed Telecommunications System



**Report by the  
Comptroller and Auditor General**

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**Ministry of Defence**

**The Private Finance  
Initiative: The  
Contract for the  
Defence Fixed  
Telecommunications  
System**

Ordered by the  
House of Commons  
to be printed 20 March 2000

This report has been prepared under Section 6 of the National Audit Act 1983 for presentation to the House of Commons in accordance with Section 9 of the Act.

*John Bourn*  
Comptroller and Auditor General

National Audit Office  
15 March 2000

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# Executive summary

## Introduction

**1** In March 1995 the Ministry of Defence (“the Department”) invited tenders for the provision of a new Defence Fixed Telecommunications System for the whole of the Department including the three Armed Services. The Department’s main aims were to rationalise and improve the efficiency of their existing fixed telecommunications services, to ensure continued telecommunications services and to deliver financial savings of around £30 million a year (some 20 per cent of their annual fixed telecommunications costs).

**2** The Department’s fixed telecommunications capability at that time consisted of 46 distinct services (Figure 1), provided by four separate organisations. The new system will consist of six services (Figure 2) managed, largely through a contract for the Defence Fixed Telecommunications System, by one organisation, the Defence Communications Services Agency (Figure 3).

**3** In July 1997, after a competition, the Department let a ten year contract for this project to BT. The Department estimate that the project will cost them £782 million (present value), consisting of £612 million in payments to BT, and £170 million in other costs remaining with the Department. The Department estimate that their contract with BT, together with cost reductions they had made before letting the contract, will achieve the 20 per cent savings target they had established in 1995.

## The focus of our study

**4** We examined whether the Department went to the market for the right project, whether they contracted for the services at a good price, the extent to which they protected their interests over the life of the contract and whether they managed the procurement process effectively. Appendix 1 outlines our methodology for the study.

## The scope of the project may not have maximised value for money

*Paragraphs 1.5 to 1.13.*

**5** Before developing the project the Department had carried out a strategy study of all their communications requirements until 2010. This had identified the implementation of a single fixed telecommunications system as the keystone of the

Department's future communications strategy and the savings which this would produce would be an important factor in enabling their other plans for improving communications to be achieved. There are, however, interrelationships between the Department's various communication systems and rapidly changing technology requires fast and frequent reassessment of the most effective form of service delivery. But, having decided to procure a new fixed telecommunications system, the Department did not assess the potential advantages and disadvantages of expanding the project to seek synergies from including other services, or reducing the scope to generate competition for a number of smaller projects.

**6** The Department consider that the project involved considerable risk because it was large and novel, and that expanding the project would have added further to its complexity. They say this would have prolonged the competition and led to delays in the achievement of identified savings they expected to secure through rationalising the delivery of fixed telecommunications services. BT, the winning bidder, supports this view. We consider, however, that the Department should have carried out a strategic review of the project scope to assess the extent to which restricting the project to fixed telecommunications would have limited their future options for pursuing the best possible savings on other communication services and how this should be balanced against the risks of a project with a different scope.

*Paragraphs 1.16 to 1.20*

**7** The project started out as a conventional public sector procurement of assets, but became a privately financed project when the Department rejected two publicly financed bids. They assessed one of these bids as not technically feasible. They were keen to pursue a privately financed solution, they rejected the other publicly financed bid due to technical non-compliance and decided that the final stages of the competition would be most effective if this was between the two privately financed bids they had received.

*Paragraphs 1.23 to 1.27*

**8** After considering other contract periods, the Department chose to let the contract for ten years. Although contracts for many privately financed projects are much longer than ten years, the length of Private Finance Initiative contracts for information technology and telecommunications services has generally been between five and ten years due to rapid technological changes in these sectors, with the current trend being towards ten year contracts. The Department decided that ten years would deliver the greatest savings, would reduce annual charges as bidders would have longer to recover the costs of their investment, and retain some flexibility that would be lost by being locked into a longer term contract. The length also reflected the fact that the project is complex, requiring a three year implementation period before the new system is fully operational. A ten year contract period, however, entails a number of risks for the Department arising

from the rate of change and increasing competition in the telecommunications industry. How effectively the contract deals with changes will therefore be an important element in ensuring value for money. The Department and BT meet regularly to consider jointly whether service changes are desirable and the contract contains mechanisms aimed at ensuring that BT's services continue to offer value for money throughout the ten year period (paragraphs 3.10 to 3.17).

## **The Department obtained the contract at a good price**

*Paragraphs 2.12 to 2.14,  
and Figure 8*

**9** Both final bids complied with the Department's quality and technical criteria, and the Department estimated that BT's final bid was £121 million (expressed in present values) less costly than the other final bid from Racal. BT's final bid also produced non-financial efficiencies and innovations compared to the previous form of service delivery.

**10** Bids from GPT and Nortel on the basis of public finance initially appeared to offer more savings than the two privately financed bids from BT and Racal. GPT's bid initially offered £48 million more savings than the BT bid, but the Department reduced this estimate of additional savings to £12 million after adjusting aspects of the GPT bid which did not meet the specification. The Department nevertheless rejected GPT's bid, because they considered it was not technically feasible.

**11** The Nortel bid was assessed to be technically feasible despite some technical non-compliances. This bid initially offered £27 million more savings than BT's. After adjusting for aspects which did not meet the specification, the Department estimated, however, that it would be £26 million more expensive than BT's bid, but still £30 million cheaper than Racal's bid over a ten year period. Although the Department chose a ten year contract period, and Nortel had offered substantially greater savings than Racal over this timescale, the Department did not invite Nortel to participate in the final bidding rounds. They decided to have only two final bidders, were keen to pursue a privately financed solution and considered that the Racal bid would offer more credible competition to BT with fewer technical non-compliances than Nortel's bid. Racal's bid would also have offered greater savings over a 15 year period.

*Paragraphs 2.6 to 2.9  
and 4.7*

**12** The Department followed a procedure which limited bidder negotiations until they selected a preferred bidder. We consider that this contributed to the need for bidders to put in three Best and Final Offers rather than the preferable one, thereby increasing the length of the competition and increasing costs to bidders. There was an awareness within the Department and in the private finance market at that time that the European Union negotiated procedure was appropriate for

privately financed deals although the Department's project team told us they had not been advised to follow this procedure. In our view, better external advice may have led to the Department following the negotiated procedure.

*Paragraphs 2.3 to 2.5, 2.29, 2.32 to 2.34, and 2.37 to 2.44, and Figure 11*

**13** The Department did well to sustain competition between BT and other suppliers. BT had advantages in the competition because they already provided much of the Department's fixed telecommunications requirements, so they had a greater knowledge of the Department's requirements than any other supplier. The Department maintained competitive pressure until selection of preferred bidder and secured a late reduction in the final bid from BT which reduced the total project costs by some £60 million (discounted).

**14** The expected payments to BT rose, however, by £77 million as a result of negotiations after they became preferred bidder. This was largely a result of BT agreeing to provide additional services and to advance the date for taking over responsibility for some services. There were, therefore, compensating reductions of £40 million to costs which the Department would otherwise have borne directly. This resulted in a net increase to the overall project costs as a result of the negotiations of £37 million. The Department's ongoing cost reduction programmes had reduced other telecommunications costs which they would bear directly by £35 million. As a result their estimate of the total project cost increased at this time by £2 million. The Department consider that their negotiations with BT provided a small improvement in value for money as around 90 per cent of the additional payments to BT were for additional services purchased at tariffs determined in the competition and there was also a cost reduction for UNITER, a secure system.

**15** We have carried out benchmarking which has confirmed that the prices of services are generally reasonable. The Department are paying around the same amount for two high security services as they were before the contract, despite the fact that these are now being provided by cheaper civilian staff. BT are now responsible for maintenance risks and for replacing obsolescent equipment. While this may explain the difference we consider the Department should have quantified this risk transfer to demonstrate whether the price paid was value for money.

## **The Department are generally protected by the contract but we have some concerns**

### *Paragraphs 3.3 to 3.5*

**16** During the first three years BT are responsible for operating the existing fixed telecommunications services whilst preparing their systems to take over the service at dates agreed in the contract. The process of transferring service delivery to BT systems, known as migration, is scheduled to be completed by July 2000. The new services are to be introduced at specified dates in stages, referred to as milestones. BT are paid for providing the existing service and for the achievement of the milestones. Virtually all milestones defined in the contract have been achieved by the due dates. The contract allows for new services and technology to be incorporated during the contract period and the Department can ask other suppliers to provide such services if they are not satisfied with BT's proposals.

### *Paragraphs 3.10 to 3.17 and 3.26 to 3.28*

**17** Prices for the various services are adjusted periodically in line with price movements in agreed price indices. The Department are allowed, within certain limitations, to challenge BT's prices, and have established arrangements for monitoring BT's ongoing prices against those of other suppliers. The Department are content with the price challenge arrangements. The contract terms, which were initially drafted by BT, limit, however, the risks transferred more than in other privately financed contracts we have examined. As a result the contract is closer to a traditional outsourcing than a private finance contract. Prices for the telecommunications elements of services, which are expected to fall, are adjusted annually, whereas prices for other elements, which are expected to rise, are adjusted quarterly. The effectiveness of the price challenge mechanism may be limited because the contract only allows it to be used in exceptional circumstances, without defining what these are. In addition, although the challenge is to allow a value for money review to be undertaken, the contract does not indicate how value for money is to be measured. The Department receive volume related price discounts for three of the telecommunications services only.

### *Paragraphs 3.18 to 3.22*

**18** Our analysis also suggests that, although the Department consider that the performance standards and compensation arrangements for poor performance meet their requirements, in many respects they are not as stringent as those applied in other large contracts for telecommunications outsourcing, facilities management and privately financed services. For example, higher than normal service failures are allowed before BT must pay compensation, and the level of compensation the Department receive can be no more than 50 per cent of BT's payments for a particular service, whereas payments of up to 100 per cent are not uncommon in other contracts. The Department consider that more stringent conditions would have led to increased prices.

*Paragraphs 3.31 to 3.39*

**19** The contract provides for a further competition to provide the services at the end of the ten year contract period. BT are once again likely to have advantages over other bidders, though the scope of the contract may change, which may encourage other suppliers to bid.

## **The Department should have made better use of external advice**

*Paragraphs 4.2 to 4.7*

**20** The Department spent some £4.4 million on external advice during the competition. The largest parts of this were £1.8 million for ongoing specialist support to the project, and £1.7 million for site surveys to inform the Department's asset database for the invitations to tender. They spent relatively little (only £220,000) on strategic, financial and legal advice as they considered their in-house experience of procurement and the delivery of telecommunication services gave them sufficient expertise to address most issues that would arise.

**21** The Department did not supply bidders with the draft contract terms the Department required. Instead they asked BT and Racal to submit their own draft contracts with their final bids. The Department did not appoint their own legal advisor, Burges Salmon, until after BT had been selected as preferred bidder. The Department chose Burges Salmon, after taking advice from their internal legal section, from a panel of approved legal advisors. The Department did not seek competitive tenders from other firms and only sought input from Burges Salmon on limited areas of the contract and negotiations. In other areas the Department negotiated the contract based on the terms initially proposed by BT without Burges Salmon. We consider that this contributed to some aspects of the contract being more favourable to BT than we would have expected (paragraphs 17 and 18).

**22** In our view the Department's interests could have been better protected if they had brought their legal team together at the outset, if they had considered which legal firms had relevant experience, had sought competitive tenders from those firms, and if they had sought bids based on a set of contract terms developed with input from their legal advisors. The Treasury's guidance on the standardisation of Private Finance Initiative contracts published in July 1999 will help departments and their legal advisors to develop acceptable terms for privately financed contracts.

## **Recommendations**

**23** As a result of this examination we have identified the following key learning points for future projects, a number of which are reflected in the Department's current guidance:

*Paragraphs 1.6 to 1.8*

**1** Where there are interrelationships and potential synergies between different services departments should appraise their strategy for delivering all such services before developing a long-term project for any of them. They should also be open to suggestions from bidders as to how to draw the boundaries of a project to maximise value for money. After letting a contract a department should reassess the scope of the project at periodic intervals during the contract period and prior to any further competition.

*The Department's 1998 guidance "Private Finance Initiative Guidelines in the Ministry of Defence" emphasises the need for those procuring a Private Finance Initiative project to consider how possible solutions to their service requirements fit in with wider departmental needs and strategy and where exactly the boundaries of these requirements should be drawn.*

*Paragraphs 4.4 to 4.6*

**2** Even where departments have in-house staff with expertise in traditional forms of procurement, they should still consider at the outset what additional skills external advisors can contribute to a privately financed project. It can be a false economy not to make use of external advice. Advisors should be appointed through competition.

*The 1998 guidance stresses the importance early in a project of identifying what outside skills might be necessary. To this end the Department have established a framework of contracts with a range of consultancy companies and lawyers who can offer advice on Private Finance Initiative projects.*

*Paragraph 4.6*

**3** Departments should, with their advisors, make use of the Treasury's new guidance on contract terms to develop a set of proposed contract terms. They should then ask contractors to price their bids on the basis of these terms. This will enable departments to obtain competitive bids based on terms which meet the departments' requirements and should help avoid protracted negotiations once they have appointed a preferred bidder. Departments should review how the contract terms work in practice to inform their negotiations of future deals.

*The 1998 guidance recommends that the Department should, with their advisors, draft contract terms and conditions and invite bidders to comment on these. The Department are also preparing guidance on Private Finance Initiative terms relevant to the defence sector to supplement the Treasury's guidance.*

*Paragraph 2.7*

**4** Departments should reserve the right to modify the bidding process in any way which seems likely to improve value for money. In this project, for example, the Department obtained significant price reductions by asking the final bidders to reassess their bids before selecting the preferred contractor. Departments should be careful, nonetheless, to avoid making a general practice of asking for further rounds of bids as bidders would be likely to anticipate this and take it into account when making their opening bids. They should also try to avoid increasing bidding time and costs unnecessarily.

*The Department's guidance contains advice on the advantages and disadvantages of asking for an extra round of tenders.*

*Paragraphs 2.36 and 3.14*

**5** Departments should consider whether benchmarking prices before contract signature can help their position in negotiations. In a field like telecommunications, where prices change frequently, they should also regularly benchmark contract prices against prices charged by other suppliers for comparable services. This is common industry practice to assess the value for money of services provided, and is being followed by the Department in this contract. Benchmarking also assists discussions about prices, where the contract allows prices to be adjusted if they are uncompetitive.

*There is no reference in the Department's guidance to the use of benchmarking techniques before contract letting.*

*Paragraph 3.15*

**6** Where a contract provides for regular price adjustments departments should ensure that they are able to receive the benefit of downward price adjustments at least as frequently as they bear upwards price adjustments.

*Although the 1998 guidance deals with price variation issues, it does not deal with the frequency with which indexation formulae should be applied.*

## **Part 1: The scope of the project may not have maximised value for money**

**1.1** In this part of the report we describe the Department's fixed telecommunications and assess the extent to which the scope of the project and the length of the contract had an impact on value for money.

**1.2** We found that the Department scoped the project in a way that may not have maximised the potential benefits and that they did not fully take into account the implications of changing the project to a privately financed deal during the competition. We also found that, although the Department chose a ten year contract period which can pose risks to value for money in a fast changing sector, they sought to address those risks.

### **The Department scoped the project in a way that may not have maximised potential benefits**

**1.3** Prior to the letting of the contract, the Department's fixed telecommunications were operated separately by four organisations; the Army, the Royal Air Force, the Navy and the Department's administrative centre, leading to duplication of telecommunications service provision. Figure 1 shows the 46 previous services, grouped by organisation; these will all be provided by a single Defence Fixed Telecommunications System under the contract. Under the new contract, there will be a total of six fixed telecommunications services, as illustrated in Figure 2 on page 11.

**1.4** Since April 1998 a single organisation within the Department, the Defence Communications Services Agency, has been responsible for the day to day operation and co-ordination of many of the Department's telecommunications, including their fixed telecommunications. Figure 3 on page 12 shows the relationships between the main players in the contract.

**Figure 1** The previous services now included in the Defence Fixed Telecommunications System (DFTS)

*The figure shows the 46 previous services which are now part of the Defence Fixed Telecommunications System*

- 9 Point-to-Point Data
- 7 Circuit Switched Voice
- 5 Point-to-Point Voice
- 2 Packet Switched Data
- 1 Circuit Switched Data



**MOD Centre**

- 3 Circuit Switched Voice
- 1 Point-to-Point Data
- 1 Circuit Switched Data



**Army**

**Defence Fixed  
Telecommunications  
System**

**Navy**



- 3 Circuit Switched Voice
- 1 Circuit Switched Data
- 1 Packet Switched Data
- 1 Point-to-Point Voice
- 1 Point-to-Point Data

**RAF**

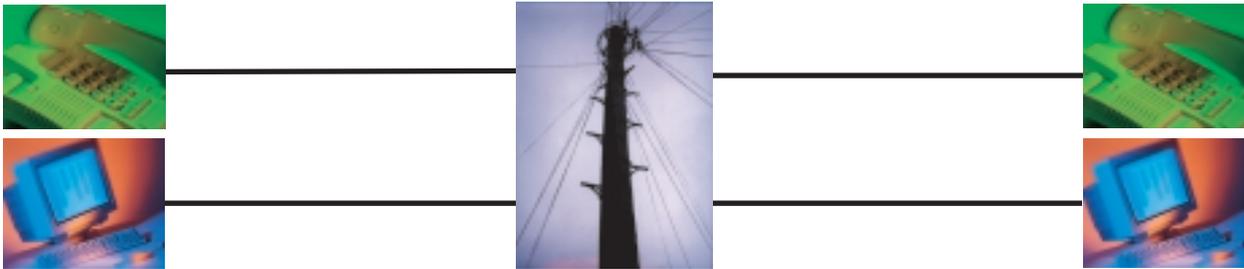


- 2 Circuit Switched Voice
- 3 UNITER Circuit Switched Voice
- 2 UNITER Circuit Switched Data
- 1 UNITER Packet Switched Data
- 1 UNITER special
- 1 BOXER Point-to-Point Data

Source: National Audit Office

**Figure 2**

**The six types of telecommunications service**



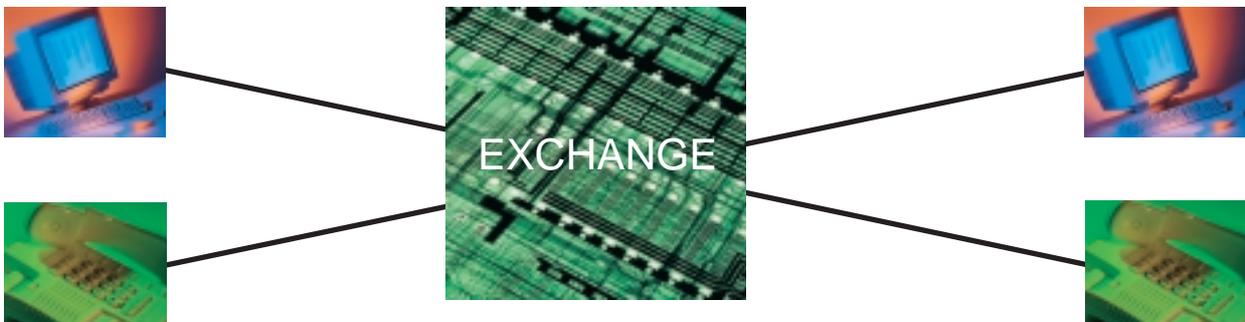
**Services 1 and 2: Point-to-Point Voice and Data**

All connections between terminals are by permanent lines.



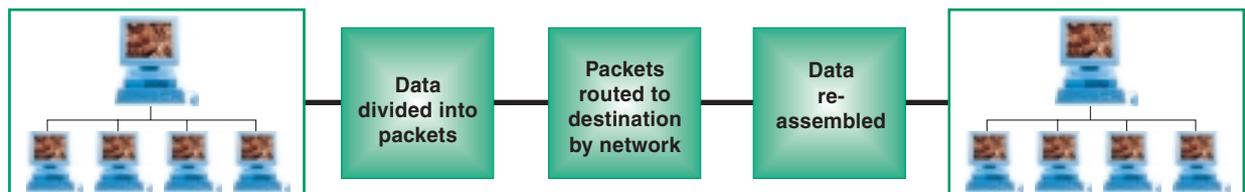
**Service 3: Packet Switched Data**

Digital data transmissions are divided into groups of data or “packets” to allow them to share the network with other transmissions. Packets are re-assembled at receiving terminal to form original transmission. Allows more efficient use of network.



**Services 4 and 5: Circuit Switched Voice and Data**

No permanent connections exist between terminals, but a digital circuit is established by a switching centre in an exchange when a transmission is made. This remains as a dedicated connection for the duration of the transmission. Once the transmission ends, the circuit is terminated.



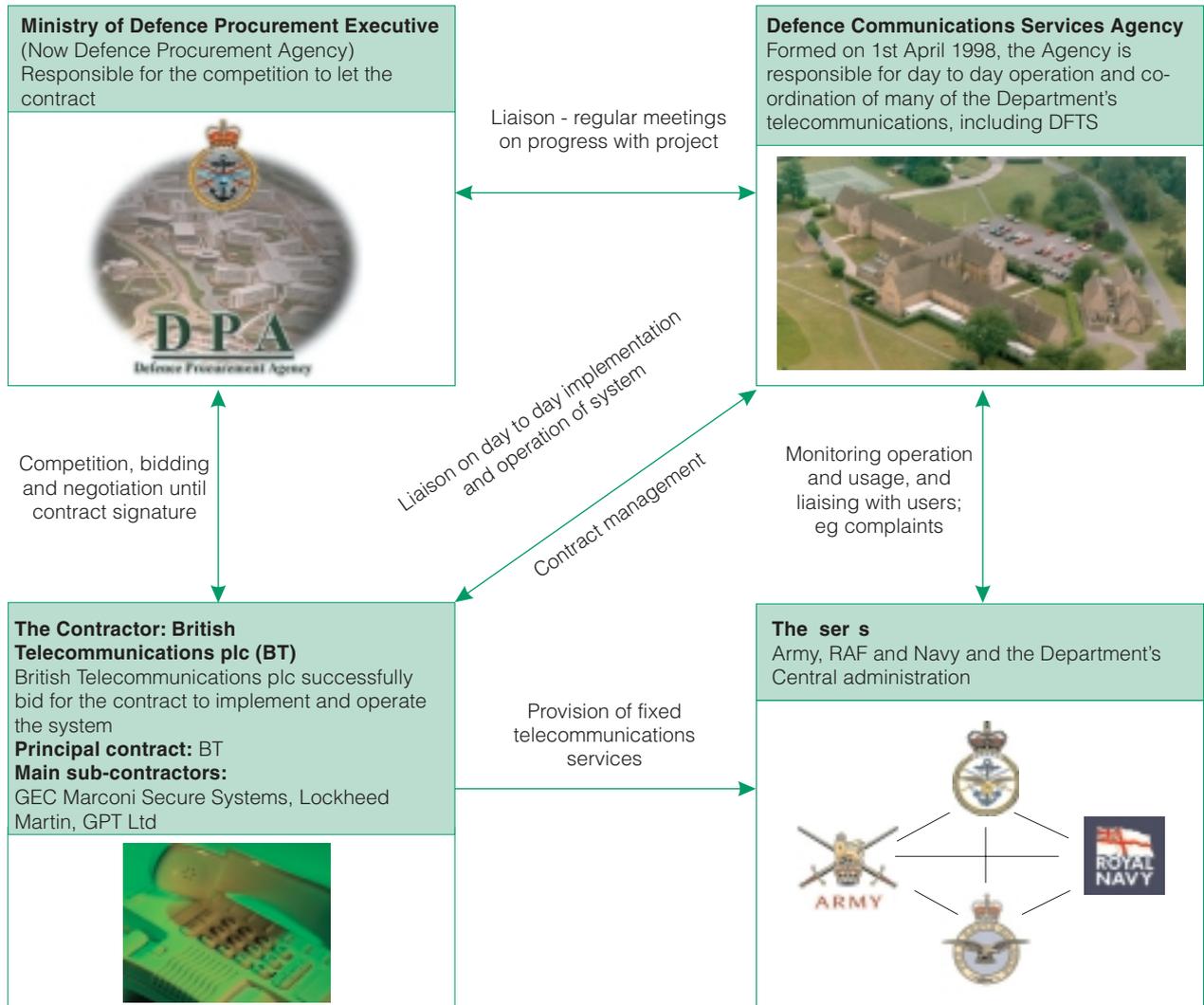
**Service : Local Area Network Interconnect (LAN Interconnect)**

Connects different Local Area Networks to allow transmissions between them. Local Area Networks typically serve a site, such as a Military base. Uses technology similar in principle to Packet Switched Service, but gives higher capacity and compatibility with the Internet.

Source: National Audit Office

**Figure 3** The main players in the Defence Fixed Telecommunications System contract

The figure shows the relationships between the main parties involved in the contract



### The Department had identified scope for savings and efficiencies in their fixed telecommunications

**1.5** Since 1982, a number of studies undertaken by the Department of their fixed telecommunications had identified scope for financial savings and operating efficiencies by creating a single fixed telecommunications system. The Department's stated primary purpose of the project was to "realise actual cost savings, against the current costs of fixed telecommunications", without any reduction in operational effectiveness or quality of service to the end user. The

Department have confirmed to us that they did not have an objective of improving the service to the end user. The Department estimated in internal reviews<sup>1</sup> that they could achieve savings in their fixed telecommunications of £30 million a year<sup>2</sup>, some 20 per cent of their annual spend on fixed telecommunications.

### **A strategic review of the project scope may have generated further savings**

**1.6** The Department carried out a strategy study in 1992 to consider all their communications requirements until 2010. This study considered the implementation of a single fixed telecommunications system as the keystone of the Department's future communications strategy and the savings which this would produce would be an important factor in enabling their other plans for improving communications to be achieved. This strategy was confirmed by the Department's Defence Costs Study 16, which was an element of the Front Line First initiative of 1994.

**1.7** There are interrelationships between the Department's various communications systems and the Defence Fixed Telecommunications System network, which transports the voice or data (Figure 4, next page). In addition, the rapid changes in communications technology require purchasers to reassess quickly and frequently the most effective mix of systems and forms of service delivery that will meet their needs. Although the Department's studies considered a wide range of communications services, the Department did not assess the potential advantages and disadvantages of alternative scopes for the project to procure a new fixed telecommunications system. We would have expected the Department to have carried out a strategic review of the likely benefits and disbenefits of both expanding the project to include more than just fixed telecommunications (in order to take advantage of volume savings), or reducing the scope to generate competition between suppliers for a number of smaller projects.

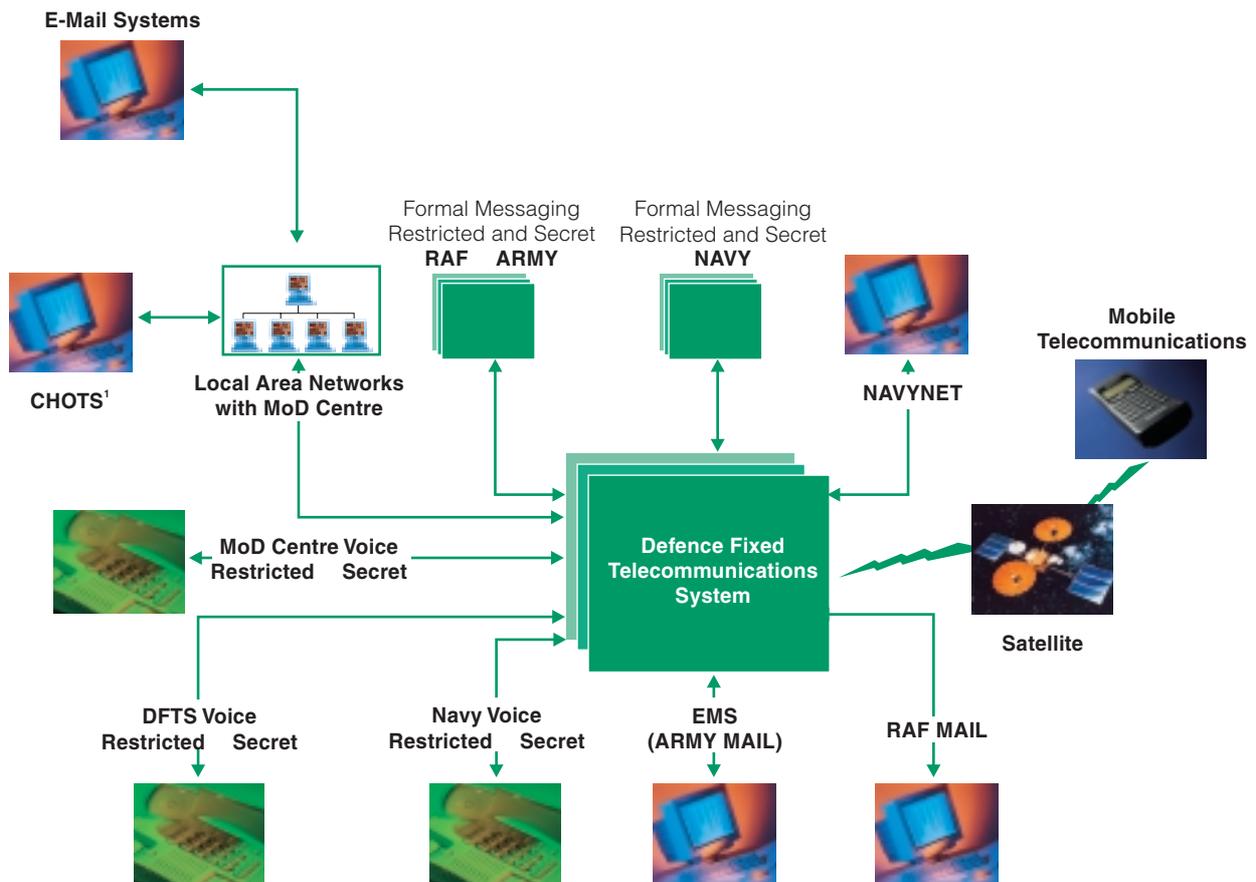
1 The Front Line First Study, published in July 1994, considered areas of the Department's operations in which savings could be made by reducing activities that were not part of their core military business. The 1994 review entitled Defence Costs Study 16 considered, amongst other things, savings in the Department's fixed telecommunications.

2 The Department told the National Audit Office that they could save an estimated £40 million a year, as reported in the National Audit Office report into Management of Telephones in the Ministry of Defence (HC 637 1993-94). This figure was later revised to £30 million following the results of Defence Costs Study 16.

**Figure 4**

**How the Defence Fixed Telecommunications System connects to other Ministry of Defence telecommunications networks**

*Many of the Ministry's other telecommunications networks are connected to the Defence Fixed Telecommunications System*



Note: 1. Corporate Headquarters Office Technology System (see Glossary)

Source: Taylor Barton Taylor consultants

**1.8** Our consultants, Mason Communications and Taylor Barton Taylor, consider that the inclusion of other forms of telecommunications in the project would have led to further savings. These savings would have arisen through:

- better pricing arrangements to reflect the greater volume of services being supplied by the contractor. The Department were able to negotiate volume discounts for three of the services in the contract (paragraphs 3.27 and 3.28);

- more efficient purchasing and maintenance of hardware; and
- a simplified system of support services.

In addition, like many telecommunications users, the Department are monitoring the growth in the use of mobile telecommunications and are considering the impact this may have on their fixed telecommunications requirements. The Department did not, however, address this issue in the specific planning for this project.

**1.9** The Department told us they may try to bring other areas of their fixed telecommunications within the contract as their other telecommunications contracts become due for renewal. For example, they are currently negotiating terms to bring the telecommunications component of their Corporate Headquarters Office Technology System (CHOTS) within the system (see Glossary). This system links the whole of the Department and provides transmissions up to secret security level. Including this system should allow the Department to negotiate price reductions for similar services that are already within the contract, due to the increased volume of transmissions.

**1.10** Following the end of the Cold War and the Government's recent Strategic Defence Review, the Department decided that the BOXER and UNITER systems (see Glossary), which provide telecommunications resistant to nuclear attack, need no longer remain in public ownership. The Department are investigating the possibility of a public-private partnership to own and operate BOXER, and are considering changes in the scale and provision of UNITER. These plans may result in reduced payments under the contract but there are likely to be cessation charges payable to BT, which provides support services for them under this contract, so the impact on value for money of including these two systems is unclear at present.

**1.11** These developments demonstrate that the Department's various communications needs in a rapidly changing sector require careful management. For this reason we consider the Department should have carried out a strategic review to determine the most appropriate project scope.

### **But the Department considered that a different scope would delay savings**

**1.12** We accept the Department's view that rationalising their existing fixed telecommunications services and networks already made the project very complex. It is also their view that widening the scope to include, for example

mobile telecommunications or other contracts mentioned in Appendix 2, would have made it more difficult to let the contract, as the increased complexity would have increased the project risks and would have required substantial resources from the Department and bidders.

**1.13** In addition, the Department were under pressure to deliver the potential savings of approximately £3 million a month identified in their reviews. They therefore wanted to keep the length of time needed to let the contract as short as possible to avoid delays in the achievement of savings they expected to secure through rationalising the delivery of fixed telecommunications services, identified in the Department's review and reported to Parliament in 1994. BT, the winning bidder, supports this view. We consider that the Department should, nevertheless, have formally assessed a range of options for the scope of the project, as only by doing so would they have been in a position to decide whether there were additional savings which were worth pursuing. The need to utilise additional resources should not deter departments from pursuing options which justify the time and costs of those resources.

### **They developed the project after considering various options for fixed telecommunications**

**1.14** In May 1992, the Department endorsed an internal review<sup>3</sup>, which defined the scope of the Defence Fixed Telecommunications System and provided the basis for placing the fixed telecommunications systems of the three armed Services under unified control. Following that, in 1993 the Department commissioned GPT, a telecommunications supplier, to identify various ways of rationalising the Department's fixed telecommunications into a single system. GPT then examined the costs, benefits and risks over a fifteen year period of these options against the alternative of maintaining the existing method of service provision. The study was called the Project Definition Study, and was completed in 1994. Figure 5 outlines the options identified in the study.

3 Staff Requirement (Defence) 2001.

**Options identified in the Project Definition Study**

**Figure 5**

*The Project Definition Study identified six options for the Defence Fixed Telecommunications System*

1. Zero Option. This represented the Department's existing network provision, plus plans to maintain that level of service over the ten year period.
2. Greenfield Option. Where the Defence Fixed Telecommunications System would be served by new, more advanced digital equipment, which would be owned by the Department.
3. Federation Option. This involved combining current assets in a cost-effective manner through the use of a single network serving all sites.
4. Facilities Management Option. This involved using external contractors to manage and maintain all Department network assets with the exception of key core elements.
5. Virtual Private Network Option. This involved serving the Defence Fixed Telecommunications System by public facilities where appropriate.
6. Hybrid Option. This was based on the Federation Option, plus elements of options 2, 4 and 5.

Source: Ministry of Defence:  
Project Definition Study

**They chose a single network solution, with elements of other options**

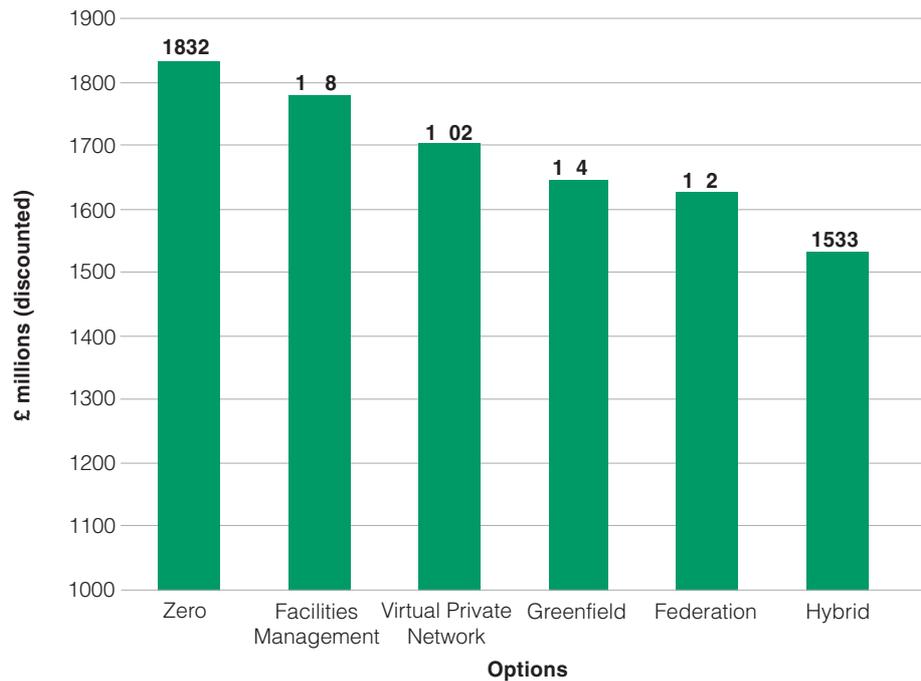
**1.15** The results of the Project Definition Study (Figure 6) showed that the Hybrid Option was likely to be the lowest cost option and would cost £1,533<sup>4</sup> million (present value), saving £299 million compared to the Zero Option. The Department accepted the study's recommendation that the Hybrid Option should form the basis of the new system, as it was the lowest cost option, involved comparatively low risks, and provided a high level of flexibility.

4 Although the Hybrid Option formed the basis of the project, the scope changed as the competition progressed, and cost estimates were recalculated over the competition period. So the cost estimates here are not directly comparable with cost and savings estimates arising from the bids or signed contract, discussed elsewhere in this report (Figures 8 to 11 and paragraph 2.34).

**Estimated costs of options identified in the Project Definition Study**

**Figure 6**

*The Project Definition Study recommended the Hybrid Option as it had the lowest costs, had low risks and provided flexibility*



Source: Ministry of Defence: Project Definition Study

**The Department did not fully review the implications of pursuing a privately financed deal**

**The Department originally sought a publicly funded procurement, but also invited innovative solutions**

**1.16** In late 1994, the Department advertised for expressions of interest in the project based on implementing the Hybrid Option using publicly funded asset based procurement. They did not identify private finance as a possible solution until early 1995. When the invitation to tender was issued to bidders in March 1995, it was based on traditional asset based procurement, but sought innovative bids and specifically mentioned that bidders should take note of the Private Finance Initiative.

### **A privately financed project developed during the competition**

**1.17** The Department received four bids in response to the March 1995 invitation to tender. Two of these, from GPT and Nortel, were for traditional asset based implementation of the system. The other two, from BT and Racal, proposed privately financed solutions whereby they would implement the new system and then manage it. They proposed to charge for most telecommunications services on a tariff basis, so that the Department's payments would be more closely related to usage than under their previous arrangements where they leased lines from telecommunications companies.

**1.18** The Department selected BT and Racal to submit further bids to examine privately financed options more thoroughly. There was no formal decision to procure the project through the Private Finance Initiative, although the invitation to tender did suggest that bidders consider such an approach. The Department decided during the competition that a privately financed solution was the most promising solution. The Treasury's Private Finance Panel designated the project as a Pathfinder project in late 1995, which means that it was a private finance project in a new area from which lessons could be learned. The Department subsequently reflected lessons from this project in guidance which they issued in 1998.

### **The Department did not make clear that highly specified services were to be included**

**1.19** Under a privately financed project, specifying the services required and letting the private sector decide how it can best deliver them usually provides the best value for money, as this allows greatest scope for private sector innovation in service delivery. The Department decided here that certain assets would remain under their ownership due to the unique nature of their resilience and security requirements for telecommunications, although the contractor would be responsible for their operation and maintenance. These included the BOXER and UNITER systems, for which the Department were at the closing stages of a conventional procurement exercise, and new high grade encryption equipment to provide secret transmissions. The Department offered bidders the option to tender for support of BOXER and UNITER from the beginning of the competition, but they did not make it mandatory to include these systems in the bids until an advanced stage of the competition because they wished to explore whether bidders could provide them at an acceptable cost. This followed a policy decision in the first quarter of 1996 that the Royal Air Force need no longer itself undertake the work of

supporting these systems. The Department considered the terms of bidders' initial proposals for these unacceptable, for example, because cost plus terms were offered.

**1.20** After deciding to follow a privately financed solution, the Department did not re-consider whether to require bidders to take responsibility for these highly specified systems. Although these services have a pre-defined method of delivery, thus restricting the amount of innovation that bidders can bring, there is scope for savings, for example, by replacing uniformed military staff with lower cost civilians. Making the supply of these services mandatory requirements at a late stage in the competition meant that there was limited competition for them as only BT and Racal bid to provide them, and in our view the Department cannot demonstrate that the price agreed for these discrete requirements was value for money (paragraphs 2.42 to 2.44).

### **Risk allocation in the contract is more like a traditional outsourcing than a Private Finance Initiative contract**

**1.21** Under a privately financed contract, best value for money is most likely to be achieved when risks are allocated to the party best able to manage them. Under the terms of this contract, which were initially drafted by BT, risk transfer is more limited than in other privately financed contracts we have examined (Figure 7). The retention of these risks means that elements of the contract are more like a traditional outsourcing contract than a privately financed contract. The Department, therefore, may have missed opportunities for better value for money by not seeking greater transfer of these risks where BT are best able to manage them. The Department believe that all risks considered appropriate for transfer at the time they were developing this project have been transferred to the contractor, and that transferring further risks would have been at a price which would have reduced value for money. The Department's legal advisors, Burges Salmon, were appointed at a late stage and we understand from the Department that they performed effectively. In our opinion, if the Department had involved a legal advisor earlier, which had greater experience of negotiating terms in Private Finance Initiative contracts, this would have enabled the Department to secure better terms, possibly at no extra cost and, therefore, without compromising value for money.

**Figure 7**

**Examples of limited risk transfer**

*This figure gives examples of how risk transfer under the contract is more limited than in other Private Finance Initiative contracts*

<b>Risk</b>	<b>Risk transfer on this contract</b>	<b>Comparison with risk transfer on other Private Finance Initiative contracts</b>
BT fail to meet performance standards.	Once services are fully migrated, payments to BT will be subject to service credits if BT fail to meet agreed performance standards. However BT's liability to credits is capped at a maximum of between twenty and fifty per cent, depending on the service involved, so that they will still receive some payment in the event of poor performance. In the event of poor performance, however, the Department can suspend payments.	On other Private Finance Initiative contracts the whole of a contractor's fee is at risk if they perform poorly enough.
Operating costs are more than expected.	BT can charge the Department extra if, as a direct result of the Department's technical, security or operational requirements, BT incur additional costs in providing the services by a method which is different from their normal method of delivery. Both BT and the Department agree that this will only take effect if the Department directs BT to operate in such a way.	Normally the contractor can only recover increases in their operating costs from a department if these increases are the result of the department <i>changing</i> their requirements. This contract gives BT the possibility of passing on their costs if the method of delivery has changed in meeting the existing requirements.
Problems related to the ownership of assets occur.	The Department have sold BT almost all their fixed telecommunications assets but have retained ownership of the UNITER and BOXER systems. BT simply maintain and operate these.	Usually any public assets involved are either sold to the contractor or their ownership is transferred for at least the duration of the Private Finance Initiative contract.
BT's prices for services move out of line with market prices.	BT have to reflect other suppliers' prices in the annual price variations. The additional price challenge mechanism can only be used, however, in exceptional circumstances and does not indicate how value for money is to be measured. But the Department conduct periodic benchmarking using consultants, which would provide the basis for any price challenge.	Other Private Finance Initiative contracts set out that prices should be fully benchmarked at periodic intervals against other suppliers' prices and do not restrict this to exceptional circumstances.

Source: National Audit Office

## **The Department chose a ten year contract period to maximise savings**

### **The Department initially sought a five year contract but allowed bidders to propose longer periods**

**1.22** The Department initially invited tenders for a five year period to cover implementation of the single Defence Fixed Telecommunications System, after which the Department would operate and maintain the services. Bidders were,

however, free to propose additional contract periods of up to five years, during which they would take some responsibility for operation and maintenance of the system, if they could demonstrate this would offer value for money.

### **They increased the contract period as bidders proposed greater savings over ten years**

**1.23** GPT and Nortel bid on the basis of a five year period, but Racal stated they would require a minimum period of ten years. BT bid on the basis of a five year implementation contract, but also showed that they could produce greater savings if they were allowed a longer contract period. BT and Racal's preferred solutions involved managing the Department's fixed telecommunications for up to five years after implementing the new system.

**1.24** In December 1995, the Department invited BT and Racal to submit further bids, known as Best and Final Offers, for a ten year contract period, as their assessments of the earlier bids showed that ten years offered the greatest savings. The longer period also allowed annual charges to the Department to be reduced as bidders would have longer to recover the costs of their investment required to implement the new system. The Department considered that ten years also allowed more scope for innovation than a shorter period and more flexibility than a longer period. In addition, this was a complex project requiring a three year period before the new form of service delivery was fully operational.

### **They sought to address risks to value for money that arise from a long contract in a rapidly changing market**

**1.25** Contracts for information technology and telecommunications services have generally been between five and ten years and a ten year contract period, although long at the time, is in line with current trends<sup>5</sup>. Increasing the contract period may help to reduce annual charges if contractors are prepared to recover their capital costs over a longer period. And it may allow Departments to benefit from a more developed working relationship with their contractor. Long contract periods for telecommunications and information technology contracts, however, do carry risks because these markets are subject to rapid technological changes and purchasers may want new forms of service delivery. A long term contract with one supplier therefore presents the risk that services could become obsolete. It can

5 The Treasury Taskforce noted that the average length of Private Finance Initiative Information Technology contracts had risen from seven to ten years in their draft "Standardisation of PFI Contracts – Information Technology" which they circulated to the public and private sectors for comment in July 1999.

also limit scope for achieving value for money for new requirements if it means their provision will not be subjected to a competition. In addition, competition in the telecommunications industry is increasing and is expected to increase further in coming years, so there is also a risk that prices in a long term contract may not fall in line with market pressures.

**1.26** The effectiveness with which changes are dealt with will be an important element in judging whether the contract period is appropriate. Under a long term contract it is, therefore, important that:

- there is sufficient flexibility to handle change;
- there are mechanisms to ensure prices are competitive with the market; and
- there are terms to allow the Department to hold a new competition for the contract at the end of the period.

**1.27** In view of these concerns, the Department required the bidders to consider future changes and incorporate in their proposals the ability to expand to include certain new services and types of technology. The Department and BT meet regularly to consider jointly whether services changes are desirable throughout the contract period. The contract also allows the Department to compare BT's prices with those of other suppliers and to negotiate changes if BT's prices are no longer value for money (see Part 3).

## **Part 2: The Department obtained the contract at a good price**

**2.1** This Part of the report considers whether the competition the Department ran for the Defence Fixed Telecommunications System contract is likely to result in the Department achieving their objectives and their service requirements at a good price.

**2.2** Although we had some concerns about the procurement process, we found that the Department selected BT as preferred bidder after holding an effective competition, despite BT's position as their dominant fixed telecommunications supplier. The winning BT bid was £121 million cheaper than Racal's final bid. The Department estimated that it was also £44 million cheaper than their ten year budget provision for fixed telecommunications services. This had been reduced to take account of savings of 20 per cent (around £30 million a year identified in the Department's 1994 review) (paragraph 1.5 and Figure 9). Benchmarking has confirmed that BT's prices are generally reasonable, but the Department did not establish that the contract with BT would be better than traditional procurement.

### **BT were the dominant telecommunications supplier, but there was a competing bidder**

#### **BT would have had advantages in the competition**

**2.3** Prior to the competition for this new contract BT were the dominant telecommunications supplier to the Department, providing most of their network and equipment and the Department were BT's biggest single customer. This meant that BT had a greater knowledge of the Department's fixed telecommunications requirements than any other bidder. In addition, BT are the only telecommunications supplier with a network covering the entire UK, and other bidders for the contract would have to use part of the BT network or invest large sums in laying their own network. Bidders told us that using BT's network would increase their business risks compared with BT and would limit their scope for innovation, as they would be relying on another supplier's equipment to deliver some of their services.

### **The Department maintained a second bidder's interest until they selected BT as preferred bidder**

**2.4** The Department retained the interest of both bidders until they selected BT as preferred bidder in November 1996. This was despite BT's dominance and the fact that the Department requested two further bidding rounds after the first Best and Final Offer. The Department calculated that in their third Best and Final Offers BT offered savings which would reduce the project costs by some £60 million, or five per cent, and that Racal had improved their previous bid by £30 million, or two per cent. These price reductions secured at the final bidding round suggest that bidders felt they were under competitive pressure. Although the Department made more accurate information about their systems available at the later stages of the competition, in the absence of competitive pressure there would have been no incentive for bidders to use this information to reduce prices.

**2.5** In order to achieve a good contract price it is important for a procuring body to maintain competitive pressure for as long as possible, to prevent one bidder from having excessive negotiating power. This must be balanced against imposing higher costs on bidders by retaining them in the competition when they are unlikely to win the contract. We spoke to both BT and Racal and they both felt there was a genuine competition up until November 1996 when BT were selected as preferred bidder.

## **Bidders expressed some concerns about the procurement process**

### **The Department's procedure led to the need for three Best and Final Offers**

**2.6** The Department were exempted from advertising the competition in the Official Journal of the European Communities and from following European Union procurement rules as the project contained elements concerning national security<sup>6</sup>. As the project started off as a conventional public funded procurement, the Department adopted their normal practice and followed a procedure similar to the European Union restricted procedure, which limited the scope for bidder negotiation. They planned to shortlist two firms to supply a Best and Final Offer, then select a preferred bidder and only after that enter into detailed negotiations. The Department chose this strategy as they considered the overall competition

<sup>6</sup> Article 223 of the Treaty of Rome, replaced by Article 296 of the European Union Combined Treaties, contains an exclusion from competition rules for members' defence bodies.

would drive the value for money process, without the need for detailed negotiations which, with up to six bidders, in their view would have required too many resources.

**2.7** The Department's chosen procedure meant that there was limited opportunity for detailed discussions with the bidders when the Department were considering the bids. This contributed to the Department requesting a total of three Best and Final Offers from BT and Racal, where only one is preferable in a competition. The second was necessary because bidders had not fully accepted or complied with some of the Department's requirements. The third was requested because the Department believed the bidders could improve their prices, which they did. Bidders told us, however, that the chosen procedure added to the time and costs of bidding. The Department do not agree with this view as it assumes that a quicker procurement would have resulted in this case from the alternative of the European Union negotiated procedure.

**2.8** We welcome the Department's efforts to improve value for money by maintaining competitive pressure on bidders. Increasing bidding time and costs, however, add to the costs to be recovered by the winning bidder through the contract prices. The Department may have been able to maintain competition and secure price reductions in a shorter time and at a lower cost to bidders by allowing full negotiations and discussions with bidders, as provided for under the European Union negotiated procedure. This procedure allows earlier detailed negotiation with the bidders and greater scope for discussions of innovations, so is better suited to complex privately financed procurement than the procedure adopted by the Department for this procurement. The Department have noted that the European Union Public Procurement regulations state that this procedure is to be used "exceptionally where the nature of the services to be provided; or the risks pertaining thereto, are such as not to permit prior overall pricing"<sup>7</sup>. However, the Department acknowledge the utility of the negotiated procedure, and recommend it in their current guidance on Private Finance Initiative procurement. While the Department's project team have told us that they were not advised to follow the European Union's negotiated procedure, there was an awareness within the Department and in the private finance market in mid 1995 when the project was being tendered that the negotiated procedure was appropriate for privately financed deals. This procedure allows earlier detailed negotiations with the bidders and greater scope for discussions of innovations, so is better suited to privately financed procurement than the procedure used by the Department for this project.

7 European Union Public Services Contracts Regulations 1993, Regulation 10(2)(b).

**2.9** The clarification of information supplied to bidders and the Department's requirements for UNITER are examples of matters which could have been dealt with more effectively through earlier discussions with bidders and full negotiations. We do not find the Department's concern that this would have required too many resources convincing. We consider that there could have been greater flexibility and time savings from full negotiations which would have freed up resources at an earlier stage. The Department believe, however, that the approach they followed was the most appropriate and timely for this project. They acknowledge, however, that their procurement guidelines issued in November 1995, when this competition was well underway, confirmed the European Union negotiated procedure was likely to be the preferred route for private finance contracts.

### **Six companies were invited to bid, but only four bids were received**

**2.10** In late 1994, the Department advertised for expressions of interest in the project in the Ministry of Defence's Contracts Bulletin and Government Opportunities. They received expressions of interest from sixteen companies in the industry. Based on pre-qualification questionnaire replies, the Department identified six firms they believed had the technical, financial and managerial ability to deliver their requirements: BT, Racal, GPT, Nortel, EDS and Mercury Communications Ltd. These six included all the major telecommunications operators in the United Kingdom at the time, plus a mix of other types of firms, such as equipment suppliers and managed service providers.

**2.11** The Department invited the six firms to bid in March 1995. Two of them, EDS and Mercury Communications Ltd, withdrew from the competition without submitting a bid, so the Department received four bids in June 1995. Mercury decided that the likely costs of bidding outweighed their chance of winning against BT. EDS did not bid, deciding that the Department's requirements were too tightly drawn around direct replacement of existing services, rather than delivering additional benefits to the Department. The requirements were not, therefore, best suited to their type of business.

## **The Department selected two bids to proceed to the Best and Final Offer stage**

**2.12** The Department's assessment of the four original bids showed that none fully met their requirements. They then considered whether the bids would be operationally acceptable and, if they were, whether technical and financial adjustments were needed to bring them more in line with their requirements. The Department judged that, although GPT's bid had initially appeared to offer £48 million more savings than BT's, the way it proposed to meet some of the telecommunications service requirements was not technically feasible. The Department made adjustments to address some of these aspects, and this reduced the estimated additional savings to £12 million. The Department still considered, however, that the GPT bid was not technically feasible. Nortel's bid initially offered £27 million more savings than BT but, after adjusting for aspects which did not meet the specification, the Department considered the Nortel bid would be technically feasible but £26 million more expensive than BT's bid. Figure 8 shows the estimated savings over ten years of all four initial bids before and after the Department made their financial adjustments. Of the three bids which the Department considered were technically feasible, the Department consider that BT's was a clear leader because it offered the most savings and the best solution to their requirements.

**2.13** The Department decided they would take only two bids to the next bidding round because they were concerned about the resources and time that might be needed in considering more than two final bids. As a result of this decision they had to choose between Racal and Nortel as the other final bidder to compete with BT. Nortel's adjusted bid was £30 million cheaper than Racal's bid over a ten year period (although Racal's bid would have offered greater savings over a 15 year period).

**2.14** The Department chose to invite Racal to participate in the final bidding rounds because they were keen to follow a privately financed solution and believed that Racal's bid which was based on private finance principles would offer more credible competition to BT in the next round and had fewer technical non-compliances than Nortel's bid. Although the Department indicated in their first formal invitation to tender that they would consider a privately financed approach, Nortel told us that, had they known this earlier, when they were putting their bid team together, they would probably not have bid.

**Estimated savings offered by the initial bids compared with the Zero Option before and after adjustments (£ millions, discounted)**

**Figure 8**

*This figure shows the estimated savings over ten years of the four initial bids, before and after adjustments, compared with the Zero Option. It shows that, once the Department had rejected GPT's bid on technical grounds, and had adjusted the other bids to make them comply more closely with the specification, BT offered the greatest savings and Nortel offered £30 million more savings than Racal.*

Estimated savings over 10 years	BT	Racal	Nortel	GPT
Before adjustments	85	103	112	133
After adjustments	110	54	84	122
After adjustments compared to BT's bid	N/a	(56)	(26)	12

Source: Ministry of Defence

**2.15** As a result, in December 1995, the Department asked BT and Racal to submit Best and Final Offers, by February 1996. Their revised invitations to tender asked bidders to examine more thoroughly the privately financed proposals they had made in the first round. The Department were not precise in some areas as to what responsibilities they expected bidders to accept (paragraphs 1.19 and 1.20). This lack of clarity contributed to the need for further Best and Final Offers.

### **The two final bidders thought that the detailed evaluation of bids lacked co-ordination**

**2.16** During the competition, the bids were divided up between eleven evaluation teams which considered different aspects of the bids. The teams met regularly at Tender Evaluation Boards to co-ordinate the assessments and try to prevent duplication of work. Each stage of bid assessment resulted in requests for clarification from the bidders, which were dealt with through a single office of the Department's Procurement Executive in order to ensure consistency and relevance.

**2.17** Bidders have commented that the splitting-up of bids resulted in some duplication of work. They felt that the timing of the consideration of the technical and commercial aspects of the evaluation were out of step, and this lack of co-ordination meant that unnecessary questions were asked. Bidders told us that these problems resulted in increased time and increased their costs. The Department say they used eleven evaluation teams operating in parallel because of the complex technical requirements of the project and this sped up the project.

## **Bidders had concerns about information supplied by the Department**

**2.18** Payments for most of the services were to be based on tariff charges for each call made. This means that bidders and the Department needed accurate estimates of the level of telecommunications usage and data on existing assets in order to calculate estimates of the total costs of the services over the period. Bidders have told us that there were many errors, omissions and inconsistencies in the Department's information, particularly on volume of usage and details of assets<sup>8</sup>.

**2.19** Inability to provide accurate information meant that bidders were likely to have increased their contingencies for uncertainties, in turn increasing their bid prices. The Department made available more and better information as they obtained it as the competition progressed, and this enabled bid prices to be improved. Racal believe they could have reduced their bid prices further if more accurate information had been available.

**2.20** Notwithstanding the improvement in the Department's information there still remained some concern about the accuracy of information on assets and telecommunications usage at the time of contract signature. This, together with the need to record any changes in the period between contract signature and subsequent transfer of assets, meant that BT undertook a verification exercise after the contract was let and before services were provided through the new system. This created a risk that if BT discovered that existing assets were different from what they had expected, they might make claims against the Department. Alternately, they may have made an allowance in their contract price for the possibility of additional expenditure if information given to them by the Department was incorrect. The Department told us that they have accepted a claim for £316,000 arising from deficiencies in security concerning the packet switched service at the time that assets were transferred.

8 This lack of information was identified in the 1994 National Audit Office report on Management of Telephones in the Ministry of Defence (HC 637, 1993-94), and was one of the areas the Department hoped the new contract would improve.

## **The Department did not consult trade unions until after the contract was signed**

**2.21** When the project was tendered in 1995 there were 1,200 declared staff within the Defence Fixed Telecommunications System boundary. Of these some 600 were civilian and 600 were military, mainly in the Royal Air Force. The military staff were largely redeployed within the Department. The great majority of the civilian staff are either being redeployed within the Department or made redundant as BT transfer services to the new system. Only a few staff transferred to BT to work on the new system which is mainly operated by BT's existing staff. The employment rights of the civilian staff who have transferred to BT are protected under the Transfer of Undertakings (Protection of Employment) regulations (TUPE).

**2.22** The Department told us that they made efforts to keep the principal trade unions informed of developments through informal discussions, but formal consultations between the Department, BT and the unions did not begin until after the contract was signed in July 1997. Subsequent guidance from the Treasury<sup>9</sup> recognises that departments should consider inviting unions to discuss relevant employment issues with short-listed bidders. Union representatives told us that they considered that their earlier formal involvement would have been beneficial. They gave us, as an example, that they would have been able to help BT identify more easily the Department staff affected by the transfer of work. The trade unions told us that this would have facilitated the consultation with these staff as to whether they preferred to transfer to BT, move elsewhere within the Department, or take redundancy. In subsequent privately financed projects, the Department consulted trade unions earlier, in line with their own guidance of August 1996 and the Treasury's guidance.

<sup>9</sup> Treasury Taskforce Policy Statement No 4 "Disclosure of Information and Consultation with Staff and other Interested Parties" (October 1998).

## **The winning bid was estimated to be £121 million cheaper than the other bid**

### **They compared the costs of the two final bids with those of continuing with the existing systems**

**2.23** The Department supplied bidders with a spreadsheet model of their estimates of the costs of continuing to operate fixed telecommunications under the existing arrangements over a ten year period. They asked bidders to provide their own estimates of the costs to the Department on that model, to ensure that bids were received in a consistent format to assist fair comparison.

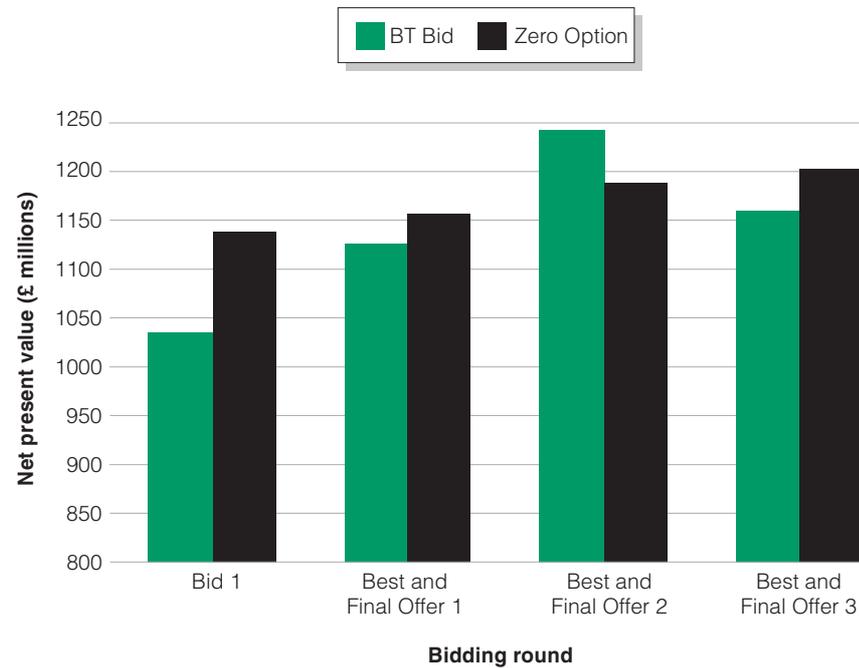
**2.24** During the procurement process the Department's calculations showed many changes in the savings that the bids would deliver, compared with continuing the existing systems. The changes arose from the Department changing their estimates of the costs of continuing the existing systems, amending the scope of the project, and other pricing changes by the bidders. The effect of these changes on the Department's evaluation of BT's bid is shown in Figure 9. These various changes made it difficult for the Department to monitor the comparative value of the bids they received at different stages of the procurement.

**2.25** The Department did not prepare a public sector comparator to compare the privately financed bids against the costs of a similar publicly funded project. Instead, they compared the bids, together with other costs of delivering the service which would be borne directly by the Department, with the costs of maintaining the existing network provision (the Zero Option). They concluded that the BT bid was better value for money than the Zero Option (Figure 9). The Department told us that a full public sector comparator would have been unrealistic, as there was little prospect of financing a reliable non-privately financed option. This was in line with Treasury guidance at the time<sup>10</sup>. The Department also stated that the preparation of a full public sector comparator would also have required a great deal of the Department's resources.

**How the costs of the BT bid and the Zero Option changed over the competition process**

**Figure 9**

*The figure shows how BT's bids and the Department's Zero Option changed during the bidding process. In addition, changes to the project scope and planned cost savings resulted in the cost of the Zero Option reducing from the earlier estimate in the Project Definition Study (Figure 6, page 18). The various changes in the Zero Option made it difficult for the Department to compare the expected savings at different stages of the procurement.*



Source: Ministry of Defence/  
National Audit Office

**2.26** Neither difficulties in financing a publicly funded alternative nor the extra resources needed to prepare a public sector comparator are reasons for not comparing the cost of privately financed solutions with traditional procurement. The comparison provides evidence of the extent to which privately financed solutions represent value for money. The Treasury guidance which the Department were following was subsequently withdrawn in March 1998 and the Treasury's current guidance stresses the importance of a public sector comparator in the financial assessment of a Private Finance Initiative project. The Department were not in a position to demonstrate that the BT bid was better value for money than might have been obtained under traditional procurement, as they did not know the cost of a fully compliant publicly funded alternative. They had, however,

10 The Treasury guidance "Private Opportunity, Public Benefit" issued in November 1995 (but now withdrawn) said that a comparator was not needed if a project could not have gone ahead as a publicly financed project at the time a department were seeking privately financed bids. The Treasury's subsequent guidance issued in 1998 expects a comparator to be produced to demonstrate whether value for money has been achieved.

received two bids based on publicly financed capital expenditure from GPT and Nortel, and concluded from these that traditional procurement was unlikely to deliver value for money.

**2.27** The GPT and Nortel bids assuming public finance had both initially appeared to offer greater savings than the privately financed bids from BT and Racal. But, as explained in paragraphs 2.12 to 2.15 above, the Department considered that the GPT bid was not technically feasible and was, therefore, not a credible comparator. They considered that Nortel's bid, after adjustments, did offer a reasonable guide to the cost of a largely compliant publicly funded project. But, as explained in 2.13 to 2.15, the Department chose to invite BT and Racal to submit further bids based on private finance, as they were keen to pursue a privately financed solution even though Nortel's bid had offered more savings than Racal over ten years.

**2.28** After deciding not to pursue Nortel's publicly financed bid, the Department did not subsequently update their comparisons with the expected cost of a publicly financed alternative to take account of the final bidding round and the late changes in the specification. As BT's bid improved in the final round of bidding, after taking account of the specification changes, the Department consider BT's final price was likely to have been better value for money than traditional procurement.

### **BT's bid was clearly ahead of Racal's**

**2.29** The Department revised their investment appraisals at each of the three Best and Final Offer stages to reflect the latest bid price changes. Each of these showed that BT's bid prices were lower than Racal's. At the third Best and Final Offer stage, both BT's and Racal's bids fully complied with the Department's quality and technical criteria, and the Department decided to select their preferred bidder on price alone. The Department estimated that, in present values, the BT bid would cost £44 million less than, and the Racal bid £77 million more than, the Zero Option. The BT bid was thus £121 million cheaper than the second placed bid. The increased price differential between BT and Racal following the final rounds of bidding reflected the fact that, although Racal had improved their bid by £30 million, BT had offered a greater improvement of £60 million in their third Best and Final Offer. There were also other pricing changes by both final bidders in response to the Department's amendments to their specification.

**The Department's  
assessment of the third  
Best and Final Offers  
against the Zero Option**

**Figure 10**

*The figure shows that the BT bid cost £44 million, (present value) less than the Zero Option, and the Racal bid cost £77 million more over ten years.*

<b>Investment appraisal value (£ million, discounted)</b>	<b>BT</b>	<b>Racal</b>	<b>Zero Option</b>
Costs over ten years	1159 <sup>1</sup>	1280 <sup>1</sup>	1203 <sup>1</sup>
Savings over ten years	44	(77)	0

Note: 1. These figures represent the total costs of the Department's fixed telecommunications, including elements which are not part of this project. These comprise the contract cost, plus residual costs to the Department, plus one-off equipment costs and estimates of risks remaining under each of the bids. For the BT bid these were £594 million contract cost, £428 million residual costs, £131 million one-off equipment costs and £6 million risks (all present values). They are not directly comparable with the signed contract figure of £782 million quoted in paragraph 3, which represents only the cost of this project, including residual costs to the Department.

Source: Ministry of Defence

**2.30** The Department also undertook sensitivity tests to estimate the impacts of:

- different economic assumptions; both more and less favourable than the central case assumptions. These examined the impact of different rates of labour, service and equipment cost growth; and
- higher and lower rates of growth in demand by the Department for data telecommunications services.

The sensitivity tests considered a reasonable range of alternative conditions and showed that in all cases the BT bid continued to offer better value for money than the alternatives. Detailed results of the sensitivity tests are given in Appendix 4. Following these tests the Department selected BT as the preferred bidder in November 1996.

**2.31** Many Private Finance Initiative projects are carried out by private sector firms establishing free-standing special purpose vehicles. Both the BT and Racal bids assumed, however, that they would finance the project out of their existing resources. This has the potential to reduce financing and bidding costs but the possible disadvantage that the project has not been subject to a high level of detailed scrutiny by external financiers. If there is the risk that the project may not be robust, this may not be picked up, which may lead to possible service problems. We have not been able to establish the extent to which BT and the Department have

benefited from BT's financing arrangements. BT were not required to disclose their expected rate of return on the project so we have not been able to benchmark this against information disclosed in other Private Finance Initiative projects.

### **There were nine months of exclusive negotiation with BT**

**2.32** When the Department selected BT as preferred bidder in November 1996, they expected to let the contract by early 1997. Many detailed aspects of the contract, however, remained to be finalised. The Department began exclusive negotiations with BT which were to last for nine months until the contract was signed in July 1997. The terms negotiated during this period included the details of price indexation, compensation for poor performance, and the arrangements for a further competition at the end of the contract period. The Department obtained some changes in their favour and conceded on others. While the level of concessions was not unreasonable, there were some potentially onerous terms, tabled earlier by BT, which remained unchanged. For example, BT can make additional charges if service delivery is outside their normal delivery method (Figure 7 and Appendix 3, Risk 6). But BT and the Department agree that this will only take effect if the Department directs BT to operate in such a way.

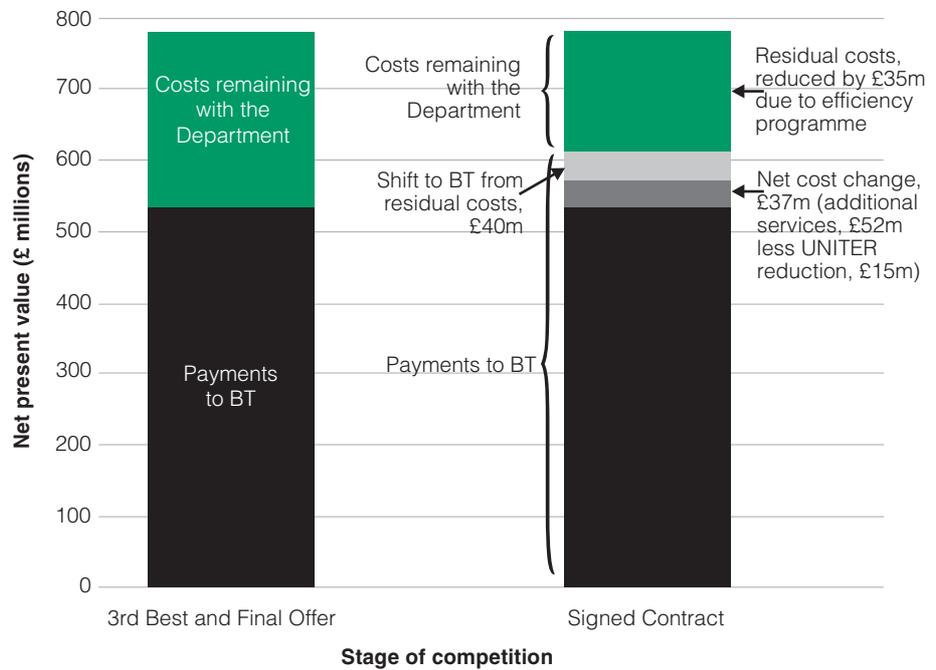
**2.33** During this period the prices of some services changed. For example, the Department managed to negotiate a lower tariff for the UNITER service. The tariffs for the Local Area Network Interconnect services (Figure 2), however, increased during this period. This was a new service and the Department were not certain of their exact needs, so they had invited bidders to tender broad estimated prices for the services. This meant there was only limited competition for the services.

**2.34** When BT had become preferred bidder the Department had estimated the total project cost at £781 million in present values, comprising payments to BT and residual costs remaining with the Department. The Department identified that the expected payments to BT had risen by £77 million during the subsequent negotiations. Around £67 million of the increase was due to the inclusion in the project of additional services, and earlier than planned transfer to BT of responsibilities for the Circuit Switched and Point to Point Services offset by a reduction in UNITER requirements. The Department's residual costs had, however, decreased by £40 million as a result of these changes. After taking account of other ongoing cost reductions of £35 million the Department reduced their estimate of the total project cost increase to some £2 million (Figure 11). Around 90 per cent of the increase in payments to BT related to additional services purchased at tariffs determined in the competition. On the basis of this, and a reduction in the costs of UNITER, the Department consider that a small improvement in value for money was achieved.

**Changes in total programme and contract costs and costs remaining with the Department**

**Figure 11**

The figure shows that changes in specifications and scope of the project meant there was an increase in payments to BT of £77 million during the final negotiations. £40 million of this represented a shift from residual costs to BT payments so had no overall impact on the estimated total project costs. Additional services costing £52 million were offset by a reduction of £15 million in the cost of maintaining UNITER. There were also reductions of £35 million in residual fixed telecommunications costs, due to the Department's ongoing efficiency programmes. This left a net increase in project cost of £2 million (Appendix 5).



Source: Ministry of Defence/  
National Audit Office

**2.35** In addition to the financial savings achieved, the contract contains a number of non-financial efficiencies and innovations for users and managers, as shown in Figure 12.

**Figure 12**

**Summary of main innovations under the contract**

*The contract provides many improvements in addition to the direct financial savings.*

**Innovation**

*Improvements for users of the services*

- Common numbering plan
- Common telecommunications standards
- Improved service directory
- New secure interconnect system for local area networks (Local Area Network Interconnect)
- Single point of contact to order new services, change existing services and report faults
- Improved security
- Improved co-ordination between the three Armed Services and central administration
- Quicker introduction of new services
- Communication of costs of telecommunications to users

*Improvements for managers of the services*

- Single management organisation (DCSA) with greater flexibility and focus
- Ability to deliver solutions across all Armed Services from a single headquarters
- Improved handling of service orders as finance and contracts staff now located together
- More predictable costs
- More accurate records of telecommunications requirements and costs
- Better future planning

Source: Ministry of Defence

## **Benchmarking confirms that the prices are generally favourable**

### **Prices generally compare favourably with others in the industry**

**2.36** Shortly after the Department and BT signed the contract in July 1997, the Department selected Ovum consultants to confirm that the prices in the contract were reasonable when compared with others in industry, and to benchmark the agreed prices with industry comparators on a quarterly basis. Ovum concluded that the prices were generally favourable, bearing in mind the Department's special security requirements, which meant that each price would contain a premium to provide these requirements. This information has helped the Department to monitor the reasonableness of BT's prices although information of this nature would also have been useful before the contract was let given that service prices were only finalised during the Department's final negotiations with BT.

### **Our benchmarking has confirmed that most prices appear on average very favourable**

**2.37** In order to gain independent assurance that contract prices are reasonable, we commissioned Mason Communications to compare the service prices in the contract with other prices for telecommunications services for large organisations. Taking into account the Department's unique security and resilience requirements contract prices contain a premium for the delivery of these requirements so comparisons with other organisations are not straightforward.

**2.38** Mason Communications prepared their comparators from a database of their clients' prices on major telecommunications projects between May 1997 and October 1998. They found that most of the monthly prices in the contract compared on average very favourably with their comparators; for example, site charges averaged 46 per cent less than the comparators. The lower prices reflect the fact that the Department are a very large customer and could negotiate volume discounts. Voice call charges are also favourable, at around 40 per cent less for local calls than the comparators and ranging from equivalent rates to the comparators to around 40 per cent less for national calls.

### **Prices for some services appear higher reflecting the Department's special security requirements**

#### **One-off prices for Local Area Network Interconnect services are high**

**2.39** In addition to the monthly charges, there are non-recurring charges to set up each service. Mason Communications found that prices for the Restricted Local Area Network Interconnect services are between two to five times as high as the one-off charges for the nearest equivalent service in their comparators. Mason Communications said that this service contains a high security premium to deliver the Department's security requirements, which justifies the higher prices.

#### **But increased volumes of business should improve prices for Local Area Network Interconnect prices**

**2.40** The Department told us that they plan to expand the scope of the contract to include the telecommunications element of their Corporate Headquarters Office Technology System (CHOTS) (see Glossary) once the contract becomes due for renewal in 2000. CHOTS is the Department's largest information system providing wide area services (see Glossary) with up to "secret" security classification. Increasing the contract's scope to include the data transport requirements of

CHOTS will increase the volume of traffic carried under the contract. The Department told us that they are currently negotiating lower prices with BT for the Secret Local Area Network Interconnect service, which would apply if the telecommunications element of CHOTS is added to the contract.

### **Management service charges are high but reflect special requirements**

**2.41** As part of the contract, BT provide a separate management service, for which a separate charge is made. Mason Communications told us that they would expect such a charge in a typical telecommunications outsourcing contract to be some 20 to 30 per cent of the total annual cost. We estimate that total management charges could represent as much as 44 per cent of the total contract charges. This is higher than the typical range, but these are Department specific services and Mason Communications advised us that meaningful comparisons with other organisations are not possible. Excluding charges for BOXER and UNITER, which have high labour elements, we estimate that management charges are 26.5 per cent of the costs of other services.

### **Prices for BOXER and UNITER support services are high, despite reductions in uniformed staff**

**2.42** Charges for BOXER and UNITER in 1999/2000 are projected to be £32 million (28 per cent) of the Department's total spending on the Defence Fixed Telecommunications System of £116 million. They are very labour intensive services, with between 76 and 79 per cent of the total charge represented by labour charges, compared with between 15 to 34 per cent for most telecommunications services under the contract.

**2.43** Previously, these systems were operated and maintained by uniformed Royal Air Force personnel, but are now run by BT. Replacing uniformed military personnel with civilian specialists usually leads to a reduction in staff costs, other things being equal. This is because:

- the uniformed staff responsible for operating and maintaining BOXER and UNITER would also have had other duties, such as combat training and general military duties. Their wage costs would include a premium for these duties, compared with a civilian who is employed specifically to operate and maintain the systems, although civilians may be subject to call out charges and overtime payments which would not be made to military staff; and

- these other duties mean that additional suitably trained personnel are needed so they can maintain services while exercises are taking place. So, a greater number of military personnel would be needed to provide the BOXER and UNITER services than is the case with the civilian specialists in the BT contract.

**2.44** For these reasons, we would expect to see savings in the BOXER and UNITER support services. Annual spend on the services is instead similar to the previous level when they were operated by Royal Air Force personnel. The Department consider that there have been wider savings than those taken into account in their estimates; for example, in supervisory posts and training establishments, but they have not quantified these savings. The Department also saw advantages in having a unified system, which encourages the use of BOXER and UNITER. BT are now responsible for supplying a specified level of service and the Department suggested that BT may have included a premium for that. They are also responsible for maintenance risks and for replacing obsolescent equipment. While this may explain the difference we consider the Department should have quantified this risk transfer to demonstrate whether the price paid would be value for money.

## **Part 3: The Department are generally protected by the contract but we have some concerns**

**3.1** This part of the report examines the extent to which the Department's interests are protected under the contract. Over a ten year period, many changes can be expected, particularly in an industry like telecommunications which is subject to rapid technological advances. A prudent purchaser would negotiate effective terms to ensure that services are delivered as specified, and contain incentives and flexibility to ensure the services do not become expensive or obsolete over the ten year period.

**3.2** We found that the implementation of the project is broadly going to plan. The Department have sought to achieve continuing value for money over the period, although their terms for compensation for poor performance are weaker than other large telecommunications outsourcing, facilities management and privately financed service contracts. The contract allows for new services and technology to be incorporated, and shares demand risk between the Department and BT. The Department can re-tender the contract at the end of the period, but BT will have advantages over other bidders due to their experience in operating the contract, if they perform satisfactorily during the current contract period. But the Department have told us that they intend to generate competition, possibly by including other services in which BT are less dominant.

### **The implementation of the project is broadly going to plan**

#### **Most milestones defined in the contract were achieved by their due dates**

**3.3** During the first three years BT are responsible for operating the existing fixed telecommunications services whilst preparing their systems to take over the service at dates agreed in the contract. The process of transferring service delivery to BT systems, known as migration, is scheduled to be completed by July 2000. Until then, BT will receive payments for the achievement of defined "milestones" towards migration to the new system.

**3.4** In addition BT also receive an "interim tariff" for delivering the existing point-to-point and circuit switched services, which is higher than the final tariff. This is a result of their taking more risk and responsibility for existing systems

prior to the defined migration dates than was set out in the invitation to tender. The interim tariffs were negotiated following BT's selection as preferred bidder. Following the defined migration dates, the Department will make payments based on the new, lower tariff for these services, even if BT fail to achieve that migration date, unless the reasons for delay are outside BT's control. This gives BT an incentive to achieve migration at the agreed time.

**3.5** Most milestones have been achieved by the due date, although there was a delay in migrating the Royal Air Force's circuit switched service due to technical problems. The migration of the next Armed Service, the Army, started on time in April 1999 and BT still expect to complete migration of the whole of the system by the contractual date of July 2000.

### **There have been some problems with the new systems**

**3.6** Some end users have complained that they are having to pay more under the new system for moving and changing telephones than they did previously. The Department consider that this apparent increase is due to the fact that users and local budget holders are now being made more aware of the actual costs of changing their requirements than before.

**3.7** Under the contract, telephone operator services have become centralised, with four large operator centres being constructed and implemented. Previously, some bases had their own local operator service, which had greater local knowledge than is now available, and some end users have complained about the lack of knowledge under the new arrangements. The Department are now following the practice in other large organisations which have sought cost efficiencies by reducing local operator services.

**3.8** There have also been problems with the new operator service's handling of emergency calls, though there have been no serious incidents in response to an emergency to date as a result. While any new system is likely to encounter teething problems during the early period of its implementation and operation, we would have expected particular efforts to be made to avoid them affecting emergency services. We note that BT were aware of these problems and that these were reducing in April 1999.

### **Total payments to date are broadly in line with forecasts**

**3.9** The total payments to date are broadly in line with forecasts at the time the contract was let, although there are balancing discrepancies in some services. For example, payments for the Packet Switched services are now expected to be some 20 per cent lower than forecast. This is largely compensated for by a large increase in the use of the new Local Area Network Interconnect service which was not foreseen when forecasts were prepared as the latter was a new service. The tariffs for each of these services are broadly similar so this has had little effect on overall spending.

## **The Department sought to achieve continuing value for money over the ten year period**

### **Price variations will be by reference to specified formulae**

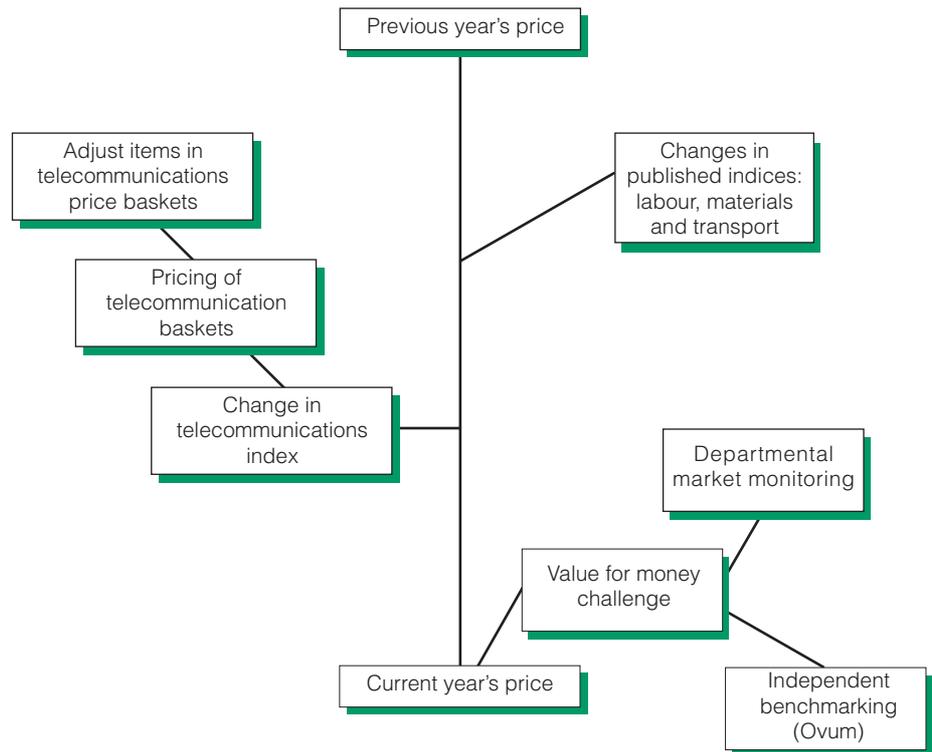
**3.10** BT's prices will be adjusted over the ten year period according to different Variation of Prices formulae for each service. The formula for each service contains combinations of labour, materials, and transport, and telecommunications prices which reflect the underlying cost base in providing that service (Figure 13). The weight attached to the different elements varies in each formula in recognition of the different elements used to provide each service. For example, labour has a relatively high weighting in the formulae for BOXER and UNITER, compared with other services.

**3.11** Changes in the costs of labour, transport and materials are calculated by reference to published price indices as defined in the contract (Appendix 6 details the relevant indices). Changes in the costs of telecommunications services are calculated by reference to a series of "price baskets", which were specially put together for this contract, and are based on selections of published tariffs of BT and other leading suppliers. The Department are paying lower rates than some published tariffs, and they will benefit from indexing annual price adjustments to changes in published tariffs if prices fall quickly in the telecommunications industry.

**The Variation of Prices formula for telecommunications services and value for money challenges**

**Figure 13**

*This figure shows that the prices of telecommunications services are adjusted depending on changes in specified indices (see Appendix 6). In addition, the Department may make value for money challenges, informed by benchmarking and market monitoring.*



Source: National Audit Office

**3.12** At the time of the contract award in July 1997, the Department and BT had agreed only one price basket, for Point-to-Point services. They did not agree the baskets for the other telecommunications services until September 1998. Mason Communications noted that some of the baskets were weighted in BT's favour as they contain a large element of published tariffs for BT's services, which are regulated by the Office of Telecommunications. BT's regulated prices may not fall as quickly as unregulated telecommunications operators, so the baskets may not reflect the whole market for each service. The Department have the opportunity to review each price basket each year to ensure that the baskets continue to reflect the market accurately. If necessary, both parties can agree changes to the composition of the baskets, to include new services available in the market, if appropriate.

### **They can make a limited number of value for money challenges**

**3.13** If the Department consider that a service is not delivering value for money, despite the Variation of Prices formulae, the contract allows them, in exceptional but undefined circumstances, to undertake a “value for money challenge”. Under the terms of the contract, such challenges can be mounted a maximum of three times for each service over the ten year period. A value for money challenge would involve benchmarking BT’s prices against market comparators in order to demonstrate to BT that they were not providing value for money. The Department would then have to obtain BT’s agreement to reduce their prices for that service, or otherwise improve the value for money of the service.

### **The Department are using consultants to benchmark prices**

**3.14** The Department retained Ovum to benchmark the agreed prices with industry comparators shortly after the contract was let (paragraph 2.36). Ovum provide quarterly reports for three years on how prices in the industry are changing relative to those in the contract. Ovum’s latest report shows that BT’s prices for this contract compare favourably with others in the industry, where there are reasonable comparators, and this agrees with our consultants’ findings in paragraph 2.38. Regular benchmarking such as this is a way of ensuring prices continue to deliver value for money and could be used as evidence in a value for money challenge.

### **We have some concerns about the price adjustments and value for money challenges**

**3.15** Whilst the procedures to monitor prices and the value for money challenge mechanism are to be welcomed in principle, we have some concerns about the price adjustment formulae and the effectiveness of the value for money challenge terms. If the price indices in the Variation of Prices formulae move as expected, the arrangements favour BT as they are likely to receive upwards price adjustments faster than the Department will receive the benefit of falling telecommunication prices. Prices for the non-telecommunications services, whose costs contain a larger proportion of elements which are likely to increase in price, such as labour, are subject to quarterly adjustments. Prices for telecommunications services, however, which are expected to fall as a result of being more closely linked to changes in the telecommunications market are adjusted annually. The annual adjustments take place in July, and are based on the April prices, so a reduction in

telecommunications prices may not feed through into the Department’s tariffs until up to fifteen months after it occurs. It is not possible to compare the impact on prices of receiving annual against quarterly adjustments, as this will depend on the extent to which BT’s initial tariffs took account of the adjustment mechanism.

**3.16** In July 1998, following the first full year of the contract, there was an overall weighted average price increase of two per cent (equivalent to a fall of 0.7 per cent in real terms). In the second year of the contract there was a further reduction in the average price of telecommunications elements of just under 1.7 per cent<sup>11</sup>. Figure 14 shows the ranges of price movements for the telecommunications services, and the overall weighted averages for the first two years of the contract.

**Price movements in the telecommunications services in the first two years of the contract**

**Figure 14**

*The figure shows that overall prices for the telecommunications services rose slightly after the first year, but have fallen after the second year.*

	Telecommunications elements: range of price changes	Overall telecommunications services weighted average
1997-1998	-2.1 to +1.8 per cent	+ 2 per cent
1998-1999	-9 to +2 per cent	-1.7 per cent

Source: Ministry of Defence

**3.17** Our legal consultants consider that the value for money challenge provisions are not drafted clearly enough to be relied upon by the Department in the event of a dispute with BT. The effectiveness of the price challenge mechanism may be limited because the contract only allows it to be used in exceptional circumstances, without defining what these are. Although the challenge is to allow a value for money review to be undertaken, the contract does not indicate how value for money is to be measured. The condition that the circumstances should be exceptional may allow BT to resist the use of the value for money challenge mechanism. Where it is used, the absence of guidance on how value for money should be measured (for example by reference to similar services provided by other suppliers) could result in disputes if the parties fail to agree on how the value for money review is to be carried out. The Department feel that greater detail in the contract would have been too restrictive and would have resulted in legal difficulties in the event of a challenge. There are also practical disincentives to mounting such a challenge, as it would take time to effect and the Department

11 This average figure is weighted for spend for each telecommunications service. The telecommunications services exclude the BOXER and UNITER support services.

would need to be very certain of their case before attempting this. BT will have taken account of these challenge provisions when pricing their contract. This will only be good value for money if BT have a genuine concern that a challenge may be made.

## **Compensation terms for poor performance are weaker than other comparable contracts which we examined**

### **The payment deductions which the Department can make have a number of restrictions**

**3.18** The contract defines the Department's required standards for each of the services. These are defined in terms of reliability, and maximum average times to restore services in the event of failures. BT are responsible for monitoring their own performance through an agreed procedure. The Department have direct access to BT's management information system and the performance data contained on this, and also meet BT regularly at working and senior management level to receive and discuss regular performance reports.

**3.19** If BT fail to provide the levels of reliability of services due under the contract, they may incur service credits, which are a standard form of compensation in telecommunications contracts. Under the service credit regime, if BT's performance in a particular period has been poor, then a percentage of the payments, defined in the contract, which are made for that period is deducted from payments for the following period. BT become liable to pay credits in phases as services migrate to the new system, between September 1998 and July 2000.

**3.20** The Department intend that the service credits should act as an incentive for BT to return a service to full performance as quickly as possible in the event of a failure. We have compared these compensation arrangements with other Private Finance Initiative contracts and our consultants compared the terms with those in a number of large contracts with national telecommunications operators, across a range of industries. While this was one of the first major Private Finance Initiative contracts let by the Department and Treasury guidance on the standardisation of privately financed contracts was not yet available, the Department's terms are not as stringent as in many of the other contracts which we and our consultants examined. In particular, we have the following concerns about the service credit regime in this contract:

- The maximum level of service credits that BT can incur is capped at between twenty to fifty per cent, depending on the service involved. In other Private Finance Initiative projects deductions of up to 100 per cent can be made if a contractor's performance is sufficiently poor.
- The levels of service failure allowed before service credits are incurred under the contract are higher than usual under a long term telecommunications contract so the regime is less stringent than industry norms.
- BT's total liability to the Department in any one year, including service credits payable, is limited to £20 million (approximately 15-20 per cent of the annual contract price) with lower figures for individual telecommunication services.
- The contract states that BT will not be liable for compensation for poor performance by third parties such as sub-contractors, unless BT have full and exclusive responsibility for the delivery of the service. Although the contract separately places responsibility for service delivery with BT, we consider that this condition could allow BT to try to avoid compensation, for example, if poor performance arises from a sub-contractor's decision to which BT were not a party, or if the Department influence the method of service delivery. We have concerns, however, about this point as much of the contract is being sub-contracted by BT. The Department accept that compensation would not be payable by BT if, in exceptional circumstances, they were to direct BT to use another service delivery method from that normally used by BT and that other service delivery subsequently failed to perform to contractual requirements. The Department say, however, that their interpretation, which BT agreed, was that BT would be liable to pay compensation for poor performance by their sub-contractors. This provision has not been tested yet during the contract period.
- In addition, we have noted that not all services provided are subject to service credits, performance is to be monitored quarterly rather than monthly as is common on other contracts, and the same level of service credit is levied on any site regardless of its size.

### **For persistently poor performance the Department can, however, suspend payments or terminate contractual arrangements**

**3.21** If BT's performance is persistently poor or falls below the standards at which the maximum service credits are payable, the Department may deem them to be in breach of contract. In this case the Department can suspend payments until their performance improves. If there is no improvement, the Department can terminate the relevant part of the contract and replace BT with another supplier.

**3.22** The Department can terminate part or parts of the contract if BT commit a material breach or persistent breaches which together amount to a material breach. They can only terminate the whole contract if a breach materially deprives the Department of the benefit of the contract. The expression "benefit of the contract" is not defined in the contract, as it is standard practice to avoid definitions which are too restrictive and therefore more likely to lead to disputes. The Department consider that their ability to terminate parts of the contract will provide them with sufficient protection in the event of breaches as they believe that it would not be practical to terminate the whole contract.

### **BT's performance to date has only fallen below agreed standards in minor areas**

**3.23** As at March 1999, BT's performance was in line with the required service delivery standards apart from in one or two minor areas. For example BT were failing to answer calls to their help desk as quickly as the contract requires and were also taking longer than agreed to implement service orders placed by the Department. BT were aware of these problems and have taken steps to improve their performance. By November 1999 BT had only had to pay service credits of some £21,300.

## **The contract allows for new services and technology to be incorporated**

### **If the Department identify a new service requirement they can ask BT to submit a proposal for its supply**

**3.24** Over the ten year period it is likely that new telecommunications services will become available because of technological change. This is likely to lead to the Department redefining their requirements or taking opportunities to improve the delivery of their existing requirements. The Department recognised this and if they

or BT identify a new service requirement, the Department can request a proposal from BT for its delivery. If the Department are not satisfied with BT's proposals, they can seek the service from another supplier. These terms are intended to allow competition and to ensure that any proposal by BT delivers value for money. The Department will also be able in the annual reviews to amend the content of the price baskets for telecommunications services, to reflect new technology.

### **The Department and BT will jointly consider new services and technology changes**

**3.25** Although there is no obligation on BT to identify new services, BT have an incentive to introduce new services and technology where these would increase uptake of their services and thus increase their returns from the contract. A Business Planning Group, comprising BT and Departmental staff, has been established to identify new service requirements. Although other contracts in fast developing areas contain a periodic technology review or an obligation on the contractor to make new technology known to the client, in practice, the Business Planning Group should ensure that the Department's requirements for new technology are met.

## **The contract shares demand risk between BT and the Department**

### **Increases in traffic volume may lead to price discounts for three of the telecommunications services**

**3.26** The new contract links the Department's payments more closely to their use of telecommunications services. Thus the majority of their payments for these services will depend on the number and size of the sites and the number of individual users taking the services. Also, for circuit switched services, the Department will pay for each telephone call by the minute and, for the call reception service, for the number of calls handled.

**3.27** In addition, the tariffs payable on three of the telecommunications services, the Point-to-Point, Packet Switched, and Call Reception and Delivery services, attract a volume discount. The first two attract discounts of ten per cent for every 20 per cent increase in the number of users<sup>12</sup>. BT may offer the system to other users, including non-government organisations, and these discounts ensure that

<sup>12</sup> The number of discounts for the Packet Switched service is limited to two over the contract.

the Department should benefit from any resulting increase in volume in these services. The prices paid per call for the Call Reception and Delivery service decrease if the number of calls exceeds thresholds defined in the contract.

**3.28** There are no volume discounts for third party use on the other services as the Department considered that payments for these were already sufficiently sensitive to their own level of use. Departments should bear in mind the opportunities for such volume discounts when arranging long term service contracts.

### **BT are protected against downside volume risk on all telecommunications services**

**3.29** Over the ten years it is possible that the demand for some or all of the services may fall. In this case the contract contains minimum demand thresholds for services, below which prices can be re-negotiated. If demand falls persistently below these thresholds, BT can treat this as a voluntary termination. They can then cease delivery of that service, and will receive compensation from the Department.

**3.30** The thresholds vary between services at between 26 per cent and 89 per cent of the expected demand levels at the start of the contract. For example, there only has to be an 11 per cent fall in demand for secure speech services before the threshold applies. The Department told us that the thresholds represent agreed minimum levels of economic viability, below which it is not worth maintaining a service at the contracted price. So BT are protected against downside volume risk, but it would also be in the Department's interest for BT to terminate a service if demand fell below these levels.

## **BT will be in a strong position to win further contracts but the Department hope that their changing requirements will encourage competition**

### **BT will be perceived as having advantages which may reduce the level of effective future competition**

**3.31** The contract provides for a further competition towards the end of the contract period and arrangements for this competition have to be put in hand from the eighth year onwards. At this stage, many of the procedures and associated costs for the further competition have yet to be worked out.

**3.32** The contract requires BT to make certain information available to enable a full and open competition towards the end of the ten year period. This information does not include data on BT's methods and mechanisms for delivering the services, which is commercially sensitive. Despite the requirements to make information available for a further competition, BT's ten years' experience of operating the Department's fixed telecommunications will mean that they will be the only supplier with full knowledge of the Department's service requirements. This could place them at an advantage in the future competition, and other telecommunications suppliers have told us that they are unlikely to bid against BT as they would expect BT to retain the contract.

### **The scope of the contract may change, which may encourage other bidders**

**3.33** The Department believe it is likely that the scope of the contract will change in any future competition. Telecommunications services currently covered by separate contracts, such as mobile, satellite and certain e-mail services, may be incorporated. Market developments such as the current trend towards the increasing use of mobile telecommunications may also need to be reflected in the new contract. Other suppliers perceive BT as having advantages in the delivery of fixed telecommunications. The Department believe, however, that the inclusion of other types of service where BT is less dominant is likely to encourage other suppliers to bid. We believe it is likely there will be many changes in the telecommunications industry over the ten years, and a change in scope of the contract may improve the number of other suppliers prepared to bid. Nevertheless, BT will still have the advantage of their experience and knowledge of the Department's requirements, and the Department will have knowledge of BT's ability to satisfy them.

### **If BT fail to win the next contract they will be paid if their assets are transferred to the incoming contractor**

**3.34** Under the original contract, BT received Department assets for a nominal charge of £1. If BT fail to win the next contract the new supplier will similarly only pay BT £1 for any of these assets which remain at the end of the contract period, and which the new supplier needs to deliver the service. It is unlikely, however, that many of these assets will remain at the end of the period as BT are expected to undertake extensive investment and modernisation of equipment.

**3.35** BT will receive payments from a new supplier, known as transfer payments, for assets and equipment which have been introduced by BT and which the new supplier chooses to use. Although a new supplier will select which, if any, service's assets they wish to purchase, if they do choose to use some of the existing assets for a particular service, they must buy all the assets for that service. The transfer payments for assets and equipment introduced by BT will be based on specified percentages of the annual charge for the relevant service in the ninth year of the contract. Based on estimates of spending in 1999/2000, transfer payments for all assets and equipment for all telecommunications services would be £43 million, some 30 per cent of the total annual spend on the contract.

**3.36** Whether this form of transfer payment arrangement will produce value for money is finely balanced. There was no Treasury guidance on transfer payments when the Department let this contract but in their 1999 guidance on contract terms, the Treasury caution against transfer payment arrangements except in information technology projects. Transfer payments may assist such projects because they may incentivise contractors to keep their technology up to date during the contract period. This may encourage more suppliers to bid for the next contract as those without the new technology will be able to acquire it without any disruption to the service provision.

**3.37** There can be, however, potential drawbacks with transfer payment arrangements. Firstly, if the transfer payment is set too high this may deter suppliers from bidding for the next contract. Alternatively, if they do bid, their prices, after taking account of the transfer payment, may not represent value for money or they may not be able to afford to make further improvements to the systems. Secondly, there is a risk that the original contractor may be paid twice for the assets if the contractor receives the transfer payment but has already recovered part or all of the cost of the assets in his original pricing of the contract or in subsequent price variations.

**3.38** Given BT's dominant market position, and the reliance which other suppliers may need to place on BT's systems, the scale of the transfer payments in this contract, at up to 30 per cent of the annual contract spend, may deter other suppliers from bidding in future contract competitions. Also, as BT will have a strong chance of winning future competitions but cannot be sure of this, it is to be expected that they will seek to recover their investment in assets during the existing contract period. This is evidenced by the prices charged over 10 years being less than over 5 years, in part because BT can recover their investment over a longer period. This means the transfer payment arrangement is unlikely in itself

to incentivise BT to invest in new technology but could result in them being paid for transferred assets both through annual service payments, and through transfer payments if the Department choose to award the next contract to another supplier.

**3.39** The Department note that an incoming contractor is not bound to use BT's assets<sup>13</sup> and that, where BT's assets are used by the new contractor, the agreed formula for calculating the transfer payment will at least place a limit on the amount that BT can receive for their assets, based on a percentage of the annual contract cost. In addition, BT will only receive this amount from an incoming contractor whose bid, after taking account of any transfer payments for BT assets they choose, has been judged by the Department to be superior to BT's bid in the future competition.

13 Subject to the conditions outlined in paragraph 3.35.

## Part 4: The Department should have made better use of external advice

**4.1** This part of the report examines how effectively the Department managed their external advisors. We found that the Department made limited use of external legal and financial advice, and that more extensive external advice could have improved their negotiation position with BT.

### We have concerns about the use of external advice

#### **There was relatively little external legal and financial advice although this was a large new contract**

**4.2** The Department spent a total of some £4.4 million on external advice for the project, compared with their original budget of £2.6 million, and Figure 15 summarises the main areas of spending (Appendix 7 shows the Department's spending on external advice in more detail). The largest parts of this were £1.8 million for ongoing specialist support to the project, and £1.7 million for site surveys to inform the Department's asset database for the invitations to tender.

**4.3** The Department only spent £217,000 on legal and financial advice. This is a very small amount compared with the cost of advice commissioned by other departments when undertaking large and innovative private finance projects<sup>14</sup>. In those projects, however, the contractors used new external finance, which added to the issues the public sector had to consider. We also pointed in our reports on those projects to some areas where those costs might have been contained. Nevertheless, considerable external legal and financial advice was used in those projects on aspects where relatively little such advice was used by the Department on this contract. Good professional advice is necessary in any contract, and not making sufficient use of such advice can be a false economy. The novelty of this type of contract to the Department, compared with the greater experience BT had of commercial negotiations, together with our analysis of the contract suggest to us that the Department could have benefited from using more commercial legal advice based on experience of negotiating Private Finance Initiative contracts.

14 For example, the Prison Service incurred £1.2 million on legal and financial advice when letting the first two privately financed prison contracts, and the National Health Service incurred £2.2 million for such advice when letting the first privately financed hospital contract.

**Summary of main spending on external advisors**

**Figure 15**

*The Department spent some £4.4 million on external advisors.*

Type of Advice	Fees paid (£ thousands)
Site survey fees	1,715
Specialist support	1,854
Tender evaluation support	715
Financial advice	137
Legal advice	80
Other fees	38
<b>Total</b>	<b>4,424</b>

Source: Ministry of Defence

**The Department chose to rely mainly on in-house staff experienced in traditional procurement**

**4.4** The Department considered that they had a great deal of experience of commercial contracts, and sought to make as much use of in-house experience as possible whilst employing external legal advice in limited defined areas. When inviting tenders, they did not supply bidders with details of the draft contractual terms they required. Instead they asked the two final bidders to submit their own draft contracts. The signed contract was then finalised in negotiations with BT. The Department’s Contracts Branch led the contract negotiations.

**4.5** In addition to their in-house legal advice, the Department employed Burges Salmon of Bristol in October 1996. The Department, based on advice from their internal legal section, chose Burges Salmon from a panel of approved legal advisors. Although this was a large project, which was novel for the Department, they did not appoint Burges Salmon until after BT had been selected as preferred bidder. The Department appointed Burges Salmon to advise on this project because of their experience in outsourcing. When they were appointed in October 1996, Burges Salmon had not, however, been an advisor on a major private finance project. At this time private finance contracts had been let for prisons, schools, roads and information technology, and other large projects were under development so there would have been other firms with greater private finance experience who could also have been considered. The Department did not, however, consider the relative merits of other firms for this appointment, including firms with relevant experience which were not on the panel. The Department only sought Burges Salmon’s advice on limited areas of the contract and negotiations. In other areas the Department negotiated the contract based on the terms initially proposed by BT in their own draft contract (paragraph 4.4) without Burges Salmon. We consider that this contributed to some aspects of the contract being more favourable to BT than we would have expected (paragraphs 17 and 18).

### **We consider that greater input from external legal advisors would have improved the Department's contract negotiations**

**4.6** A number of aspects of the contract could have been strengthened to protect the Department's interests further (see Figure 7 and paragraphs 3.20-3.21). In addition, the Department's project team were not aware of the latest market thinking on procurement procedures (paragraph 2.8). In our view the Department would have been in a stronger position to negotiate a contract which better protected their interests if they had:

- brought their legal team together at the planning stage;
- identified firms with the most relevant experience, and sought competitive tenders from those firms; and
- asked contractors to bid in competition on the basis of a set of contract terms developed by the Department and their advisors, rather than negotiating later on a set of terms which had been proposed by their preferred bidder.

The Treasury's subsequent guidance on the standardisation of privately financed contracts<sup>15</sup> will help departments to develop acceptable terms for privately financed contracts.

**4.7** We would also have expected the Department to have asked their external legal advisor to:

- assist Departmental staff with advice on the most appropriate procurement procedures for a project under the Private Finance Initiative;
- comment on the proposed contract period;
- comment on the legal aspects of alternative bids before the preferred bidder was selected; and

15 Standardisation of PFI contracts published by the Treasury Taskforce in July 1999.

- review all contract documentation before contract letting.

**4.8** We consider that it was reasonable that the Department wished to make use of in-house contractual experience – as they had previously negotiated many smaller communications contracts (Appendix 2) - and to use external advisors efficiently. We consider that greater use of financial and legal advice, however, would have enabled the Department to appraise more fully the most appropriate scope for the project, to negotiate more efficiently with bidders, and to secure better contract terms.

### **They involved their Private Finance Unit, as their in-house team had little experience of privately financed projects**

**4.9** The Department's in-house team consisted of members of the Department's Procurement Executive (now the Defence Procurement Agency), who had a great deal of experience of procurement by traditional methods. This was, however, the first privately financed deal with which many of the in-house team had been involved, and bidders told us that the team initially had difficulties in understanding private finance concepts which they proposed. In bidders' views, this led to delays and some over-specification of the project.

**4.10** In March 1995, prior to the issue of the first invitation to tender, the Department discussed the project with their Private Finance Unit. As the competition progressed and the Department decided that private finance offered the best solution, they involved their Private Finance Unit more closely with the competition.

## Glossary of terms

<b>BOXER</b>	Ministry of Defence bespoke secure system which provides the network to carry the UNITER secure telecommunications system.
<b>Circuit Switching</b>	A method of connecting voice and data telecommunications. When a user makes a transmission, a circuit is established in an exchange, and this connects the user with the intended recipient for the duration of the transmission. The two users then have exclusive use of the circuit until the connection is released. Contrast with POINT-TO-POINT where permanent connections exist.
<b>Corporate Headquarters Office Technology System (CHOTS)</b>	Restricted and secret electronic mail and office administration system for the Department's administrative centre and some headquarters.
<b>Defence Communications Services Agency</b>	An Executive Agency of the Ministry of Defence, set up to manage the Department's telecommunications. Their responsibility includes liaison with BT concerning performance of the Defence Fixed Telecommunications System.
<b>DFTS</b>	Defence Fixed Telecommunications System.
<b>Local Area Network (LAN)</b>	A network designed to provide user communication within a defined building or site.
<b>Local Area Network Interconnect</b>	This service connects the Local Area Networks in various sites, allowing communications between them. Separate tariffs operate for each of Restricted and Secret Local Area Network Interconnect security levels.
<b>Packet Switching</b>	A system which transmits data in "packets", thus allowing more efficient use of the network as paths in the network can be shared with other users. The data are broken up into small groups or packets. Unlike in circuit switching, there is no physical circuit, but the data share a "virtual circuit" with other users. Only used for data transmission in the Defence Fixed Telecommunications System.
<b>Point-to-Point system</b>	Terminals are linked by permanent physical circuits. Less complex than circuit switched networks, and quick in response time. But inefficient in resource use as lines still exist but lie dormant when not in use, rather than being formed specifically for a particular communication as with circuit switching. May be used for voice and data transmission.

<b>Server</b>	A computer program and/or processor that provides a service to users on a LOCAL AREA NETWORK; for example, accessing a file or controlling a printer.
<b>Traffic</b>	The utilisation or capacity of a telecommunications system. Traffic is described in terms of the number of calls. The number of calls in progress at any time is referred to as instantaneous traffic.
<b>Traffic Volume</b>	The amount of traffic over a given period of time in a telecommunications system.
<b>UNITER</b>	A Ministry of Defence bespoke secure system, forming part of the Minimum Military Core. The system has Electro-Magnetic Pulse Protection which provides security of telecommunications in the event of a nuclear attack.
<b>Virtual Circuit</b>	Data packets share paths through a network during PACKET SWITCHING transmissions. Although there is no physical circuit between the users, the path used for any particular transmission is referred to as a Virtual Circuit.
<b>Wide Area Network (WAN)</b>	A data communications network, which covers long distances. In this project, this would provide links between towns and between the Department's sites.
<b>Wide area services</b>	Telecommunications services carried over a Wide Area Network; for example, between Ministry of Defence bases.

## Appendix 1: Methodology used by the National Audit Office

**1** We examined the extent to which the Department secured value for money and achieved their objectives for the Defence Fixed Telecommunications System project.

**2** We used an issue analysis approach to designing the scope and nature of evidence required to complete the examination. That is, we set a series of high-level audit questions that we considered it would be necessary to answer in order to assess the value for money of the deal, and collected evidence accordingly. For each top level question, we set a subsidiary group of questions, linked logically to the main question, in order to direct our detailed work and analysis.

**3** The top level questions we set were:

- whether the objectives for the project were clear and valid for a privately financed project, in particular whether the Department set a specification for the project which would maximise the opportunities for promoting value for money;
- whether the proper Private Finance Initiative processes were well-executed;
- whether the best deal was obtained in all the circumstances;
- whether it was sensible for the Department to proceed with the selected bid; and
- whether the value for money of the deal has changed since contract signature.

**4** Our main evidence came from examination of the Department's files, interviews with key staff at the Department, and discussions with other parties involved in the project such as the bidders and the Department's legal advisors. We also analysed the financial modelling undertaken by the Department in their assessment of the bids. We appointed Mason Communications and Taylor Barton

Taylor to provide technical and financial advice, specifically in the area of telecommunications. We also commissioned Charles Russell Solicitors to provide legal advice on the contract terms.

**5** Our consultants considered a wide range of telecommunications outsourcing contracts, including other Ministry of Defence communications contracts. The contracts ranged up to hundreds of millions of pounds and covered central and local government as well as major multinational private organisations. Those contracts that were used directly for benchmarking were signed between May 1997 and October 1998. While it is not possible to find comparator contracts which exactly replicate the scale and features of the Department's fixed telecommunications contract, the contracts examined by our consultants have, nevertheless, sufficiently comparable features to enable useful comparisons to be made. In addition, we were able to make comparisons with other private finance initiative contracts we have examined, including contracts in the information technology sector.

## Appendix 2: Other Ministry of Defence communications contracts

	CHOTS	EMS	NAVYNet	RAF Mail	AMSCERP	JOCS/POCS	Deployable LAN	SKYNET 4
<i>What is the service?</i>	Restricted and secret informal e-mail and office administration for the Department and some headquarters	Restricted e-mail network for the Army	Restricted and secret network server (see Glossary) for the Navy	Desk top to desk top restricted e-mail service for the RAF	Restricted and secret messaging service for the RAF and Army	E-mail to 300 terminals at secret level	Deployable restricted and secret LANs (see Glossary). Connects to DFTS	A satellite and ground station communication project.
<i>Contract duration?</i>	15 years	10 years	9 years	10 years	5 years	5 years	Two single purchase phases	7 years
<i>Date contract entered into?</i>	April 1991	April 1997	May 1991	November 1998	February 1998	January 1998	September 1996	February 1994
<i>Supplier?</i>	ICL	Bull Information Services	Unisys	Racal	BT Syntegra	EDS	Cogent	Matra Marconi Space
<i>Total value (undiscounted)</i>	£741 million	£18 million	£28 million	£16 million	£19 million	£40 million	Phase 1, £4 million	£553 million

The table shows that the Department have recently awarded a wide range of telecommunications contracts in addition to the Defence Fixed Telecommunications System. In addition, there are a number of other communications projects under development. Such as SKYNET 5, which is a large satellite communications project.

## Appendix 3: Allocation of risks between BT and the Department

Type of risk	Actual allocation	Comments
<i>Design and implementation</i>		
1. Implementation lasts longer than expected.	BT	Even if BT fail to complete migration by the dates given in the contract, the Department will benefit from the lower amounts payable under the new tariff regime (paragraph 3.4) unless the delay in migration is caused by the Department or is due to an event of Force Majeure.
2. Implementation proves more expensive than expected.	BT	BT will meet any increased costs unless the cost increase was as a result of the Department. In this case the Department will meet the costs.
3. Failure to provide the new service to specification.	Shared	If BT fail to meet the specified design requirements and the problems are wholly within their control, BT have to correct these at their own cost. If the problems are within the Department's control, the Department may have to pay.
4. The new system is not Year 2000 compliant.	Mainly BT	BT are responsible for ensuring compliance except in respect of the assets that they bought from the Department. The Department were to meet the cost of correcting in these assets non-compliances that have been identified prior to their transfer to BT. The Department incurred no such costs.
5. Assets purchased from the Department are faulty.	Shared	BT meet the cost of repairing all faults apart from two exceptions. The Department were responsible for meeting the costs of correcting any faults identified by BT between the signing of the contract and the transfer of the assets to BT, and any serious failure of the UNITER and BOXER systems within the first six months of BT taking these over. The costs of faults falling to the Department amounted to some £316,000.
<i>Operation</i>		
6. Operating costs are more than expected.	Department	BT can charge the Department extra if, as a direct result of the Department's technical, security or operational requirements, BT incur additional costs in providing the services by a method which is different from their normal method of delivery. In practice both BT and the Department agree that this will only take effect if the Department directs BT to operate in such a way.

continued...

Type of risk	Actual allocation	Comments
<i>Operation (continued)</i>		
7. BT's charges are out of line with market rates.	Shared	BT's initial charges were determined competitively. They will be adjusted during the contract using formulae which closely link the different costs incurred in providing services with general market trends (paragraphs 3.10 to 3.12). However the adjustments for services where costs are expected to rise occur more frequently than the adjustments for services where costs are likely to fall (paragraph 3.15).
8. BT's charges fail to provide value for money.	BT	If the Department believe that a service is not delivering value for money, they can in exceptional circumstances ask for BT's charges for that service to be benchmarked and any adjustments necessary agreed (paragraphs 3.13 to 3.17). The Department are limited to asking for a maximum of three such reviews for each service during the contract.
9. BT fail to meet performance standards.	Shared	Once services are fully migrated, payments to BT will be subject to service credits if BT fail to meet agreed performance standards. However BT's liability to credits is capped at a maximum of between twenty to fifty per cent, depending on the service involved, so that they will still receive some payment in the event of poor performance. Nor does the contract define the level of poor performance at which the Department can suspend payment to BT or terminate the contract, if necessary. In certain circumstances BT can be excused poor performance altogether (paragraphs 3.20 to 3.23).
<i>Availability</i>		
10. Availability of service is lower than expected.	Shared	The performance standards which BT are paid to meet include standards for service availability. See risk 9 above.
<i>Volume</i>		
11. The Department's use of telecommunication services varies from expected levels.	Shared	Payments by the Department will depend in part on the number and size of sites taking each service and the number of individual users (paragraph 3.27). The Department will also pay by the minute for each call made under the Circuit Switched and Secure Speech services. This call tariff varies depending on the time of day the call is made and whether the call is national or local, but each call is subject to a minimum charge of 3.3 pence.
12. BT gain additional income from using the defence system to provide telecommunications for third parties.	Shared	The Department will be entitled to a ten per cent discount on the tariffs for the Packet Switched and Point-to-Point services if the number of users increases by twenty per cent. This includes additional use by third parties. Prices paid per call for the Call Reception and Delivery service fall if the number of calls exceeds certain defined thresholds. However no discounts for the use of the system by third parties are available on other services and the number of discounts is limited to two for the Packet Switched service (paragraph 3.28).

continued ...

Type of risk	Actual allocation	Comments
<i>Volume (continued)</i>		
13. Demand for telecommunication services falls to such an extent that there is no need for the services.	Department	There are minimum service thresholds for the telecommunication services (paragraphs 3.29 to 3.30). If demand falls below these, BT can re-negotiate their charges with the Department or even terminate the contract and be reimbursed any unavoidable loss that they incurred because of this, including a reasonable rate of profit.
14. The Department require new services.	Department	The Department will pay for any new services outside the scope of the project but are not required to seek these new services from BT (paragraph 3.24). If the Department do use another supplier, they have to provide BT with evidence in support of their decision.
<i>Technology/obsolescence</i>		
15. Improvements in technology make the service or the method of its delivery obsolescent.	BT	BT are not obliged to introduce new technology or carry out periodic reviews of technology (paragraph 3.25). However BT will have incentives to introduce new technology to reduce costs. The price baskets to which their charges for telecommunication services are linked will be reviewed each year to take account of services available in the market which use new technology (paragraph 3.12). Also at the end of the contract neither the Department nor any new supplier are required to take on BT's assets in the provision of this service (paragraphs 3.34 and 3.35).
<i>Residual value</i>		
16. The assets providing the service have little or no use at the end of the contract.	Shared	Neither the Department nor any new supplier are required to take on BT's assets in the provision of this service. If BT's assets are bought by these, the transfer values they will have to pay are determined by formulae contained in the contract. There is therefore a risk that BT could be paid twice for the same assets; once via the service charge under the contract, and again via transfer payments (paragraph 3.37).
<i>Legislation / regulation</i>		
17. Changes in legislation increase BT costs.	Shared	BT can modify or withdraw a service if required to do so by law or regulation and will not be in breach in doing so.
18. Corrupt payment by BT to Department official.	BT	The Department can terminate the contract and recover from BT any loss they incur in doing thus plus the amount of the corrupt payment involved.
<i>Employment</i>		
19. Department staff surplus to requirements at the transfer of responsibility for services were made redundant.	Department	The Department met the cost of these redundancies.

continued ...

Type of risk	Actual allocation	Comments
<i>Employment (continued)</i>		
20. Staff surplus to requirements after their transfer to BT are made redundant.	Shared	The rights of Department staff transferring are protected under the Transfer of Undertaking (Protection of Employment) Regulations (TUPE). The Department will meet the costs of redundancies that BT have initially planned. BT will then meet the cost of any redundancies after this.
21. Changes in Department staff terms and conditions prior to their transfer increase their costs.	BT	BT will meet any such cost increases. However the Department have to seek BT's consent before introducing any such changes, except for those in the normal course of the Department's business.
<i>Finance</i>		
22. The costs of providing finance increase.	BT	BT are funding the development of the new telecommunications system from their own resources.
23. Changes in tax regime increase BT costs.	Shared	If such changes increase telecommunication prices generally, the indexation arrangements will ensure that the charges under this contract will also increase (see risk 7).
<i>Disposal</i>		
24. Sale of surplus Department assets raises less than expected.	Mainly with BT	BT can sell any surplus assets they have bought from the Department but must pay the Department ninety per cent of the sale proceeds after deducting VAT. They are to retain ten per cent to cover the costs of the sale.

## Appendix 4: The Department's sensitivity tests

	Zero Option (£ million) <sup>1</sup>	BT costs (£ million)	BT Saving against Zero Option <sup>1</sup>		Racal costs (£ million)	Racal additional costs against Zero Option <sup>1</sup>	
			£ million	Per cent		£ million	Per cent
<b>Central case</b>	1203	1159	44	4	1279	(77)	(6)
Economic conditions one per cent more favourable <sup>2</sup>	1126	1094	32	3	1237	(111)	(10)
Economic conditions one per cent less favourable	1285	1228	57	4	1322	(37)	(3)
10 per cent a year growth in data traffic over 10 years	1276	1194	82	6	1327	(51)	(4)
25 per cent a year growth in data traffic over 10 years	1310	1242	68	5	1376	(66)	(5)
10 per cent a year growth in data traffic over 15 years	1318	1219	99	8	1354	(36)	(3)
25 per cent a year growth in data traffic over 15 years	1429	1347	82	6	1480	(51)	(4)

*Figures may not sum due to rounding*

Notes: 1. The Zero Option represents the Department's estimates of the costs of their existing network provision in 1996, plus plans to maintain that level of service over the ten year period.

2. The sensitivity tests on economic conditions assumed a one per cent change in conditions against the central case assumptions. So, the favourable change in economic conditions assumed that labour costs increase by one per cent a year, rather than two per cent as in the central case. Also that equipment and service costs fall by four per cent a year, rather than three per cent as in the central case. The unfavourable change assumed a three per cent annual increase in labour costs and a two per cent annual fall in equipment and service costs.

All options change under each test, including the Zero Option, so the figures for savings of the bids are against the Zero Option in that line.

Bracketed figures show that the Racal bid was more expensive than the Zero Option under all sensitivity test scenarios.

The table shows the results of the Department's sensitivity tests undertaken in November 1996 when BT were selected as preferred bidder. It shows that the Department estimated that the BT bid produced savings against all scenarios tested, whereas the Racal bid required additional costs.

## Appendix 5: Movements in contract and residual costs after BT's selection as preferred bidder

Change	Increase/(decrease) in payments to BT (£ millions, present value)	Increase/(decrease) in costs remaining with the Department (£ millions, present value)
Growth of Packet Switched service in the UK, and inclusion of Packet Switched service in Germany	32	0
Addition of Local Area Network Interconnect	8	0
Addition of call logging	12	0
Reduction in UNITER and other costs	(15)	0
Interim tariffs for Circuit Switched and Point to Point	25	(25)
Inclusion of Circuit Switched services for Army Districts	15	Approximately (15)
Net reduction in other residual costs	0	(35)
<b>Total increase/(decrease) in programme costs</b>	<b>77</b>	<b>(75)</b>

Source: Ministry of Defence

The table shows that after BT's selection as preferred bidder, estimated payments to them increased by £77 million. This was largely offset by reductions of £75 million in costs remaining with the Department, of which £35 million related to the Department's ongoing programme of cost reductions. The greater part of the increase in payments to BT comprised additional services purchased at tariffs determined in the competition. The Department consider that, because of this and the reduction in the cost of UNITER, overall there was a small improvement in value for money as a result of these negotiations with BT.

## **Appendix 6: Indices used in the Variation of Prices formulae**

### **Indices used for labour, materials and transport elements**

The calculation of the amount of Variation of Prices will be based on indices published in the Office for National Statistics Monthly Digest of Statistics ("the Digest"):

- The labour element index is calculated from Table 18.11 of the Digest, the Average Earnings Index: All employees: by industry (unadjusted), using the index for Electrical and Optical equipment, with the base date 1990 = 100.
- The materials element index is calculated from Table 18.6 of the Digest, the Index of Producer Prices, using the SIC 1992 index for Electrical and Optical equipment.
- The transport element is calculated from Table 18.2 of the Digest, using the Motoring Expenditure Index of Retail Prices, with the base date January 1987 = 100.
- The telecommunications element index is calculated from telecommunications service price indices, comprising sets of public telecommunications operator services which meet criteria defined in the agreement.

## Appendix 7: Advisors employed by the Ministry of Defence

Consultant:	Role:	Appointment date	Fee paid (including VAT)
Mackenzie Tribbeck Associates Ltd	Site survey team leader; site survey team co-ordinator	August 1995	£1,189,720
Parity Solutions Ltd	Site survey team members; site survey co-ordinator; data entry support; data collection migration	August 1995	£412,350
CREW Services Ltd	Support for tender evaluation	May 1995	£391,470
Rust Kennedy and Donkin Ltd	Supply of team members to undertake asset data capture	August 1995	£179,990
Admiral Management Services Ltd	Advice on security, evaluation of operational effectiveness and investment appraisal. Design, initial build, and development of the implementation database. Collection and validation of data.	July 1992	£1,853,570
Coopers and Lybrand	Defence Fixed Telecommunications System cost model	July 1994	£107,350
S-Com Ltd	Test network models; advice on Best and Final Offer tenders	August 1995	£99,110
Burges Salmon	Legal advice	October 1996	£79,778
The Charles Douglas Organisation	Provide advice on service management agreements	November 1996	£38,400
Ovum Ltd	Advice on tariff and benchmarking of the BT tender	December 1996	£30,000
EDS Ltd	Advice on integrated logistic support aspects of tenders; provide risk analysis support	August 1995	£28,574
Smith System Engineering Ltd	Assess network synchronisation aspects and management information systems aspects of tenders	August 1995	£14,040
<b>TOTAL</b>			<b>£4,424,352</b>

The Department paid over £4.4 million for advisors on the letting of the contract

Source: Ministry of Defence

**Appendix 8**

**Chronology of competition for the Defence Fixed Telecommunication System contract**

Oct-94		Pre-qualification exercise identified six potential bidders (para 2.10)
Nov-94		
Dec-94		
Jan-95		
Feb-95		
Mar-95	} Tender period	First invitation to tender issued to BT, Racal, Nortel, GPT Ltd and Mercury Communications Ltd (paragraph 1.16).
Apr-95		
May-95		
Jun-95	} Initial bid evaluation	Four tenders were received from BT, Racal, Nortel and GPT Ltd. (para 2.11).
Jul-95		
Aug-95		
Sept-95		
Oct-95		Two tenders were selected (BT and Racal) to proceed to Best and Final Offer stage (para 2.14).
Nov-95		
Dec-95	} Preparation of first Best and Final Offers	Invitation to tender was issued to BT and Racal for Best and Final Offers (para 2.15).
Jan-96		
Feb-96		Responses were received from BT and Racal for first Best and Final Offers (para 2.15).
Mar-96		
Apr-96	} Preparation of second Best and Final Offers	Fully compliant second Best and Final Offers received (para 2.7).
May-96		
Jun-96	} Preparation of third Best and Final Offers	MOD request better value for money from tenderers' Best and Final Offers (para 2.7).
July-96		
Aug-96		Final Best and Final Offers received (para 2.7).
Sept-96		
Oct-96		
Nov-96	} Single tender negotiation with BT	BT were selected as preferred bidder (para 2.32).
Dec-96		
Jan-97		
Feb-97		
Mar-97		
Apr-97		
May-97		
Jun-97		
July-97	} Three year implementation period	The contract was awarded to BT (para 2.32).
July-97		
July 2000		Full migration to BT systems due to be completed (para 3.5).

Source: Ministry of Defence