House of Commons

Committee of Public Accounts

Ministry of Defence: Major Projects Report 2006

Forty–sixth Report of Session 2006–07

Report, together with formal minutes, oral and written evidence

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The Committee of Public Accounts

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Publication

The Reports and evidence of the Committee are published by The Stationery Office by Order of the House. All publications of the Committee (including press notices) are on the Internet at http://www.parliament.uk/pac. A list of Reports of the Committee in the present Session is at the back of this volume.

Committee staff

The current staff of the Committee is Mark Etherton (Clerk), Philip Jones (Committee Assistant), Emma Sawyer (Committee Assistant), Pam Morris (Secretary), Anna Browning (Secretary), and Alex Paterson (Media Officer).

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Summary

The Major Projects Report 2006 provides information on the time, cost and performance of 20 of the largest projects of the Ministry of Defence (the Department) where the main investment decision (known as Main Gate) has been taken; and the top ten projects in the earlier Assessment Phase.

During 2005–06, the Department undertook a review of the 20 post-Main Gate projects to control its costs better. This Review has reduced the costs of these projects as recorded by the Major Projects Report by £781 million. Of this sum, £91 million is attributable to a rebate and exemption from HM Revenue and Customs. £242 million result from steps taken by the Department to stay within its budget through better management of commercial and contractual arrangements, more cost effective means of delivery, re-assessing quantities required, and more appropriate accounting treatments. However, £448 million of costs were either re-classified as expenditure in other procurement or support budgets or transferred to other budgets for corporate management. These re-allocations have achieved cost reductions for the individual projects but do not represent a saving to the Department as a whole. By transferring the costs elsewhere it may potentially have to forego activities which could otherwise have been provided.

Total forecast costs for the approved projects now amount to £27 billion, some 11% over budget. Forecast in-service dates slipped 33 months in-year, and there is a cumulative delay of 433 months for the projects over their lives so far. The Department expects that 17 projects will meet their Key User Requirements, one fewer than in 2005–06.

The Department is placing increased emphasis on through life management of Defence projects, involving the life-cycle management of the products, services and activities required to deliver integrated capability to the customer. To this end, the Department has merged its Procurement and Logistics functions into the Defence Equipment and Support organisation.

On the basis of a Report from the Comptroller and Auditor General,[1] we took evidence from the Department on three main issues: the impact of the cost saving measures identified by the Departmental Reviews in 2005–06, the performance of individual projects, and the Department's initiatives to improve acquisition performance. As an annual report, our conclusions and recommendations should be read in conjunction with the findings of earlier Major Projects Reports as part of a sequence of recommended improvements.

1 C&AG's Report, *Ministry of Defence: Major Projects Report 2006*, HC (2006–07) 23

Conclusions and recommendations

1. **The Department's Review of 20 of its largest projects cut their forecast costs by £781 million, but £448 million of this expenditure did not result in a saving to Department as a whole as it was transferred to other budgets.** The Department will have to forgo other—so far unspecified—activities which might otherwise have been financed from those budgets. As an integral part of any further reviews, the Department should quantify the opportunity cost to the recipient's budget of having to absorb such transfers of expenditure, and the impact on their continued ability to plan and deliver the capabilities originally expected from those budgets.

2. **The Department has made investment decisions based upon inaccurate forecasts.** Such decisions should be contingent on the outcome of an expert independent assessor's examination of the technical, financial and commercial maturity of the major projects and the likelihood they will deliver military benefits anticipated, similar to the examination conducted on the Future (Aircraft) Carrier.

3. **The cost increases and delays on the Astute Class submarine project in part stem from failure to preserve the submarine supply chain.** The Defence Industrial Strategy, introduced in December 2005, provides a framework against which to make judgements on the sustainment of critical industrial capabilities. The Department should routinely quantify the cost implications and operational benefits of sustaining critical defence capabilities for individual projects. The Department will also need to apply the learning from the Astute project in planning for a successor to the nuclear deterrent.

4. **The Government has announced plans to embark on a major project to build a successor to the nuclear deterrent, which is estimated to cost in the region of £19 billion and take up to 18 years**. Many of the cost overruns on older projects have been due to over-ambition in the original design and a failure to properly understand and budget for costs. The Department will need to apply the learning from Astute to this new project, including how to realistically plan and use Computer-Aided Design; keeping to the required timescale in the design and build cycle; and using new methods of construction pioneered in the United States of America.

5. **Key staff are neither held to account for a project's failure, nor rewarded for its success.** The Department will now promote staff in post to retain vital skills, and continuity at key stages of projects, or move staff on in case of failure. The Department should document its approach and how it will measure success, so as to evaluate the expected benefits against the outcomes; and it should share its learning with other government departments.

6. **The Department has not received a share of the gains on the restructuring of the Skynet 5 satellite communications deal.** It is also doubtful whether the gain achieved by the contractor, Paradigm, is balanced by the increased risk Paradigm was taking on under the restructured deal. Rather than relying on theoretical models and contractor assurance, the Department should determine the share of the gains to which it is entitled.

7. **The Department has not always sufficiently understood the capabilities of its key suppliers, to act as an intelligent customer.** The Department should build on its Key Supplier Management initiative and work with suppliers to identify areas where more joint training and skills development would help develop a stronger shared ethos and mutual understanding.

1 Impact of the Departmental Review

1. In October 2005 the Department undertook a review of 20 of its largest approved equipment projects because of concerns about the accuracy of financial forecasts and a potential lack of corporate control of costs. Four teams studied the projects in detail. They challenged the inclusion of questionable elements, and identified areas where commercial arrangements could be strengthened, where there were trade-offs to mitigate cost growth, and where accounting treatment was open to question or incorrect.[2]

2. In total the Review process identified 44 individual ways to reduce the forecast costs of these projects by £781 million, some 3% overall. Of these reductions, however, £91 million represented a rebate and exemption from HM Revenue and Customs, while a further £448 million did not represent real savings as the Department transferred this expenditure to other budgets. **Figure 1** sets out these cost transfers.[3]

Figure 1: Transfers of management responsibility other departmental budget holders

Re-allocated to enable more appropriate management			
Suppliers' Corporate Cost	Astute Class Submarine	£6m	Decontamination and decommissioning of legacy assets/ facilities used for previous programmes (£1m). Increased industry pension costs not specifically related to the Astute project (£5m).
	Nimrod MRA4 aircraft	£11m	Industry rationalisation costs, which extend beyond the Nimrod project, previously included in overheads.
Re-allocated to other parts of the Department	Astute Class Submarine	£86m	Additional overhead charges due to change in work throughput assumptions for the Barrow yard, i.e. naval programmes later than previously planned (£73m). The costs of a periodic safety review (£8m) and the safety case methodology (£5m) to a separate project as these will not deliver benefits to boats 1–3.
	Nimrod MRA4 aircraft	£230m	Reclassification of surplus production assets as Defence Logistics Organisation spares, as a result of the reduction in number of aircraft from 18 to 12 (£211m), and related saving on cost of capital charge. (£7m). Recategorisation of spares to consumable stock (£7m). RAF Tradesman to perform logistic support work for the aircraft instead of BAE Systems employees (£5m).
		£76m	Redefinition of the period of beneficial use of the equipment resulted in early delivery of element of project and cost of capital is reduced accordingly (£69m). Other reductions as a result of cost saving measures (£7m).
		£4m	Original approval did not include the costs for adaptable aircraft modifications.

2 Q 3

3 C&AG's Report, para 3; Q 47

Re-allocated to enable more appropriate management			
	Bowman communications system	£31m	Original approval did not include the costs for certain requirements (£17m), particularly support activity (£14m). To be accounted for as separate projects.
	Trojan and Titan armoured engineer vehicles	£4m	Costs falling to Defence Logistics Organisation. Reclassification of spares to consumable stock.
	Light Forces Anti-Tank Guided Weapon	£2m	Reassessment of residual risk led to revised cost.
	Sting Ray torpedo Life Extension and Upgrade	£2m	Transfer of costs for Military Aircraft Release Vibration trial, which was not part of the approved requirement, to Insensitive Munitions Warhead programme.
	Support Vehicle	£3m	Reduction by 500 of seating kits purchased as Defence Logistics Organisation has items in stock.
Total		**£448m**	

Source: Ev 17–21

3. The Department did not claim that the £448 million represented a saving, but that it stemmed from a desire to make Project Teams more accountable for delivery against an approved requirement and against costs over which they had direct control. As a result the Department transferred costs, such as those related to increased overheads in order to sustain the industrial base, to facilitate a more corporate approach to their management. The Department believes that this will lead to more effective performance in defence acquisition and is a more appropriate and sensible way to judge the management of individual projects. There was no intention to use the process to disguise an inability to control its costs.[4]

4. Although a reasonable action for the Defence Procurement Agency, there is no overall saving to the Department as a whole as other budgets will now be hit with charges that they previously had not planned to cover. Other things being equal, the Department will have to forgo other—so far unspecified—activities for which it had previously budgeted. Shuffling money between budgets halfway through the financial year in this way also makes it more difficult for the Department as a whole to plan realistically and to manage budgets in the short-term.[5]

5. The "real savings" achieved by the Departmental review therefore amount to £242 million and are set out in **Figure 2**.

4 Qq 1–4, 15, 17, 108–109

5 Qq 42–46

Figure 2: Cost-saving measures identified through the Departmental Review

Re-assessment of quantities required			
Guided Multiple Launch Rocket System		£114m	Reduced numbers of rockets from 6,204 to 4,080
Brimstone missile		£10m	Anticipated receipt from prospective sale of missiles that are excess to requirements.
Support Vehicle		£15m	Reduction in number of Recovery Vehicles from 314 to 288 arising from assessment of total fleet requirement.
TOTAL		**£139m**	
More appropriate accounting treatment			
Precision Guided Bomb		£1m	Removal of provision for exchange rate fluctuations as corporate policy of Forward Buy contracts will be used.
Nimrod MRA4 aircraft		£13m	Following the reduction in the number of aircraft, previous provision for spares written off.
Terrier armoured earth moving vehicle		£3m	Inclusion of accruals resulted in reduction of net assets on Balance Sheet and hence a lower cost of capital charge.
Sting Ray torpedo Life Extension and Upgrade		£12m	Removal of accrual for potential overhead costs related to delay in starting follow-on project.
Astute Class Submarine		£3m	Correction of accounting mis-bookings on sunk costs.
TOTAL		**£32m**	
Re-definition of some elements of the project			
Re-assessment of requirement	Trojan and Titan armoured engineer vehicles	£1m	Original approval did not contain requirement to convert prototypes into training vehicles. Requirement for training will be met using 22 production vehicles.
	A400M aircraft	£5m	Requirement for configuration of aircraft to take civil pallets was no longer necessary.
Commercial and contract management	Astute Class Submarine	£16m	Shortening of BAE Systems' warranty from three years to one due to changes in support strategy (3) and contractor to forgo any incentive payments on boat 1 (13).
	Nimrod MRA4 aircraft	£22m	Reduced contractor manpower requirements as BAE Systems' designers will be redeployed (17). One per cent saving on fee paid to contractor to be negotiated (5)
	Bowman communications system	£6m	Due to contractor progress assets delivered earlier than planned, resulting in reduced cost of capital charge.
	Next Generation Light Anti-Armour Weapon	£3m	In-year reduction in unit production cost as a result of the Swedish Government exercising an option to purchase the weapon.
	Astute Class Submarine	£7m	Rationalisation of the nuclear safety infrastructure (3); removal of requirement for high integrity alarm (1); internal publication of safety manual (1); retained existing pump designs and altered approach to training (2).

More cost-effective methods of delivery	Nimrod MRA4 aircraft	£11m	Reductions on logistics support costs through use of existing data (2) and revised fatigue test strategy (1). Productionisation costing reduction (5). Cancellation of spares (3).
Total		**£71m**	
GRAND TOTAL		**£242m**	

Source: Ministry of Defence note to Qq 48–52

6. The reduction in the quantity of equipment the Department has procured in three projects, namely the Guided Multiple Launch Rocket System, Brimstone anti-armour weapon and Support Vehicle, has already delivered a saving of £139 million. Fewer Guided Multiple Launch Rockets were required as tests found their range to be more accurate than was originally assessed. Such trade-offs could have the potential to affect military capability. The Department believes, however, that the additional reduction of 700 rockets on order (bringing the total reduction to 2124) creates no risk to operational capability and that the reduction in the number of Recovery Vehicles from 314 to 288 will not impact on the ability of the Armed Forces to conduct operations. As the availability, reliability and capability of the military vehicles which they support has improved, the nature of the recovery task has changed and the number of Recovery vehicles required has reduced.[6]

6 Qq 6, 13–14, 21, 117–121

2 Performance of individual projects

7. The United Kingdom spends around £6.5 billion annually on the acquisition of some 50 major equipment projects. Often these projects have been delayed and over budget. In 2005–06, 19 of the major equipment projects (excluding the Typhoon aircraft) were forecast to cost £27 billion, some 11% over approved budget, and had been delayed by a further 33 months.[7]

8. The trend in the Department's performance against its Key User Requirements is worsening, with only 17 projects expected to achieve all requirements, one fewer than in 2004–05. The Department believes that this is because project teams are taking a deeper look at whether or not there is a risk that any of the requirements will not be delivered and highlighting areas where they cannot guarantee delivery, so that appropriate mitigating action can be taken.[8]

9. The Department had improved its performance against planned in-service dates with in-year additional delays reduced from 144 months four years ago, down to 33 months for 2005–06. There was also greater consistency across the programme with 14 projects reporting no new delays. If equipment can be accepted into service on time, cost overruns will also be limited. Of the 36 new projects of £20 million or more in value that the Department has approved since 2003, 34 are forecast at or under budget, 33 are expected to beat their predicted in-service date and 35 should deliver all key user requirements. On the so-called "toxic legacy" projects,[9] however, it is still struggling to manage the consequences of inadequate contractual arrangements put in place some years ago.[10]

10. It is too early to say whether the Department's confidence in its improved performance is warranted. Historically delays and cost increases have worsened in the later years. The cost of the Astute Class submarine project has continued to spiral and is now £1 billion over the original budget. The Department now acknowledges that the original deal was flawed. Only one boat is firmly priced whilst the design and construction costs for three submarines were calculated without having first appreciated the requirements for delivery and the likely timescales. The Department negotiated a new arrangement for a target cost incentive fee for designing and building the first submarine, but there was still uncertainty as to whether the arrangements the Department had put in place would be deliverable.[11] HMS Astute is on schedule to enter service late in 2008, but the need to keep the current boats in service longer than anticipated creates an additional pressure on the budget.[12]

11. The Department believed that its overall performance on acquisition is favourable when compared to its international counterparts. In 2005 HVR Consulting Services Limited scrutinised cost and time estimates for 22 major programmes, using information

7 C&AG's Report, paras 2, 3; Qq 76–77, 85

8 C&AG's Report, para 1.22; Qq 12, 25

9 Astute, Nimrod MRA4 aircraft and Type 45 Destroyer

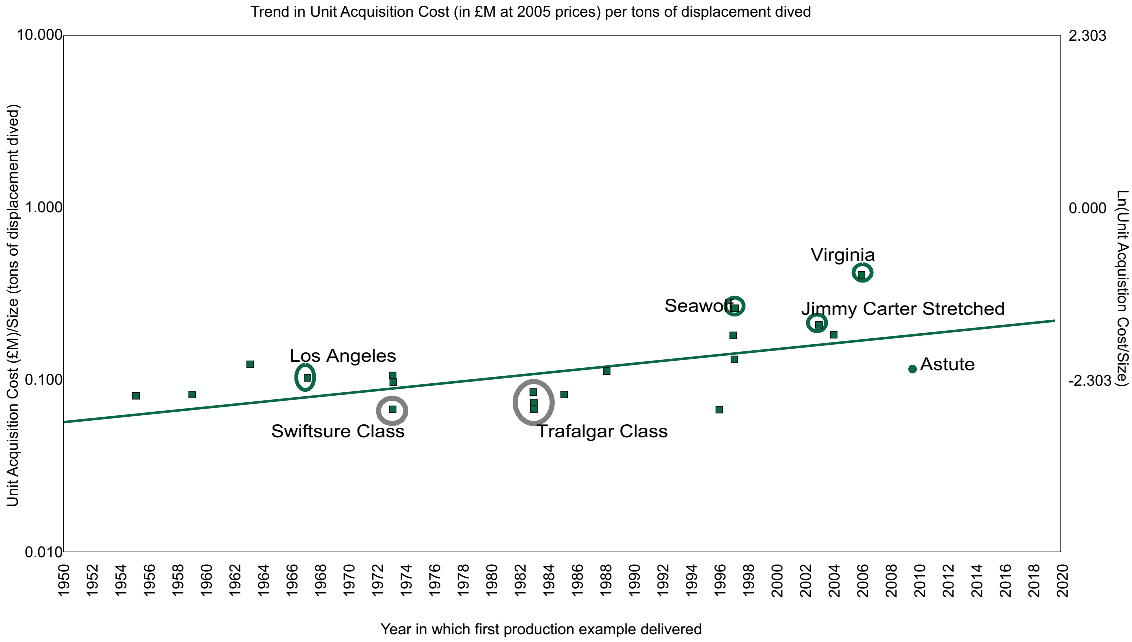
10 Qq 82–83, 124

11 Committee of Public Accounts, Forty-third Report of Session 2003–04, *Ministry of Defence: Major Projects Report 2005,* HC 889; Qq 8–9, 97

12 Qq 9, 95

from the Major Projects Report 2004, and compared them to outcomes in other nations and historic Departmental projects. Thirteen of the current projects scrutinised came in at or below the cost forecasts produced by the model, and 21 projects were expected to deliver ahead of that modelled from analysis of comparable programmes.[13] **Figure 3** below, for example, shows the cost history of nuclear attack submarine construction in the United Kingdom and the United States of America. The data (from public domain sources in 2005) is normalised to 'cost per ton' because submarines of the United States of America are generally bigger than those used by the Royal Navy. It shows that, despite large cost overruns, the Astute Class submarine is below the trend line.[14]

Figure 3: Historic cost comparisons for nuclear attack submarines



Source: Ministry of Defence analysis based on Family of Advanced Cost Estimating Tools model used by HVR Consulting Services Limited

12. The Department has reconsidered how it will design and build future submarines in order to keep building costs affordable. Lessons learned from the Astute project include how to realistically plan and use Computer-Aided Design; keeping to the required timescale in the design and build cycle to maintain sufficient skill in the workforce; and using new methods of construction which were pioneered in the United States of America. Should the government decide to invest in a successor to the nuclear deterrent, these lessons will need to feed into the project. Building a successor is estimated to cost in the region of £19 billion and take up to 18 years, and will involve the management of significant technical and commercial risks. The Director-General Nuclear is currently working with the defence industry to understand the technical issues and identify ways to control future costs.[15]

13 Qq 73, 79

14 Ev 25

15 Qq 11, 83, 129–130; Ev 24

13. The original Skynet 5 PFI deal, signed in 2003, relied on the contractor obtaining insurance to mitigate risks to the satellites during the launch phase and while in orbit. Within six months of signing the deal the contractor proposed to restructure the contract to overcome insufficient capacity in the space insurance market. Restructuring extended the contract for two years at a cost of £822 million, although there is no operational need for the additional years' service. The Department would have been entitled to a 50% share of any gains from a 'refinancing only' deal if the investors' returns exceeded a predicted rate of return of 16.45%. During the negotiations, however, the Department's financial advisers calculated the theoretical gain as a result of refinancing, and based on their assumptions the Department would not have been due to receive any share of the gain. The Department has no ability to check whether the 16.45% threshold was breached and has had to rely on the contractor's assurance that it was not owed a share of the gains. Whilst the Department believes the gain achieved by the contractor, Paradigm, balances out the increased risk the contractor was taking on, Paradigm also has two additional years of the annual tariff for the PFI service and the potential to generate third party revenue from the excess capacity.[16]

16 C&AG's Report, Appendix 3, paras 17, 19; Ev 22

3 The Department's initiatives to improve acquisition performance

14. The Enabling Acquisition Change Study of June 2006 recommended significant cultural and organisational changes in the Department in order to focus on the affordability of equipment throughout its life, and not just at initial acquisition. One major change was the merging of the Defence Logistics Organisation and Defence Procurement Agency on 1 April 2007 to form the Defence Equipment and Support organisation. The Department also intends to develop metrics to demonstrate the through-life performance of equipment, both in terms of value and support costs. The first independently verified report on performance should be available for Parliamentary scrutiny from 1 April 2008.[17] In preparation for this merger, the Chiefs of Defence Logistics and Defence Procurement have been co-operating on a "Joint Working Initiative". They have emphasised to staff that team leaders are as accountable for the future programme of in-service support as they are for the initial acquisition phase.[18]

15. Successful management of personnel will be key to the new organisation's success. Lack of continuity of staff in post has hampered the Department in the past in its efforts to achieve a consistent standard of performance in the delivery of its projects. There has been a particular problem at the middle management level (Band B and C grades) where up until now personnel have changed jobs upon promotion. The Department is putting new arrangements in place to slow down staff turnover. Time in post for newly selected Integrated Project Team Leaders will be tied to the delivery of key project milestones, and there will be more management control over staff moves to prevent those which are not in the wider corporate interest. The Department intends to permit promotion in post to reward good performance, therefore retaining vital continuity in key roles at crucial stages of the projects.[19]

16. Relatively few project managers have been held responsible for poor project delivery and removed from post as a consequence. The Department's view is that many cost overruns have resulted from decisions taken collectively within the Ministry of Defence, rather than by individual team leaders, and therefore it considers it unfair to hold them responsible. It has, however, removed an average of three project managers a year over the last four years, with a number of underperforming team leaders being invited to retrain for more suitable posts, something the Department believes has not always happened in the past in the public sector. Tighter accountability, as well as more appropriate rewards for success, will be central to the personnel management arrangements in the new Defence Equipment and Support organisation.[20]

17 Qq 37, 90–91

18 Q 38

19 Qq 24, 39–40

20 Qq 38, 84, 92–93

17. The Department increasingly delivers projects through a partnership approach and works with a wide range of suppliers. In doing so, it needs to understand the performance of its key suppliers and use this information to inform its decision making. Since 2004, the Department has collected, project by project, perception-based data on how supplier performance compares against its contractual obligations. It also collects data on interaction with industry, for example if a supplier keeps the Department informed of emerging bad news. The Department is increasingly using this data to risk adjust bids for new programmes, particularly if suppliers have a history of under bidding to win contracts. Each company is aware of its own scores and its overall ranking relative to other unnamed key suppliers.[21]

21 Qq 125–126; Ev 22

Formal minutes

Monday 9 July 2007

Members present:

Mr Edward Leigh, in the Chair

Mr Richard Bacon
Mr David Curry
Mr Ian Davidson
Mr Philip Dunne
Ian Lucas
Mr Austin Mitchell
Mr Don Touhig

Draft Report

Draft Report (Ministry of Defence: Major Projects Report 2006), proposed by the Chairman, brought up and read.

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

Paragraphs 1 to 17 read and agreed to.

Conclusions and recommendations read and agreed to.

Summary read and agreed to.

Resolved, That the Report be the Forty-sixth Report of the Committee to the House.

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

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

[Adjourned until Wednesday 10 October at 3.30 pm.

Witnesses

Wednesday 31 January 2007

List of written evidence

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Third Report	Collections Management in the National Museums and Galleries of Northern Ireland	HC 109 (Cm 7035)
Fourth Report	Gas distribution networks: Ofgem's role in their sale, restructuring and future regulation	HC 110 (Cm 7019)
Fifth Report	Postcomm and the quality of mail services	HC 111 (Cm 7018)
Sixth Report	Gaining and retaining a job: the Department for Work and Pensions support for disabled people	HC 112 (Cm 7019)
Seventh Report	Department for Work and Pensions: Using leaflets to communicate with the public about services and entitlements	HC 133 (Cm 7020)
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Fifteenth Report	The termination of the PFI contract for the National Physical Laboratory	HC 359 (Cm 7077)
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Seventeenth Report	Financial Management of the NHS	HC 361 (Cm 7077)
Eighteenth Report	DFID: Working with Non-Governmental and other Civil Society Organisations to promote development	HC 64 (Cm 7077)
Nineteenth Report	A Foot on the Ladder: Low Cost Home Ownership Assistance	HC 134 (Cm 7077)
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Forty-sixth Report	Ministry of Defence: Major Projects Report 2006	HC 295

The reference number of the Treasury Minute to each Report is printed in brackets after the HC printing number

Oral evidence

Taken before the Committee of Public Accounts

on Wednesday 31 January 2007

Members present:

Mr Edward Leigh, in the Chair

Mr Richard Bacon
Mr David Curry
Mr Ian Davidson
Mr Sadiq Khan
Mr Austin Mitchell
Mr Don Touhig
Mr Alan Williams

Sir John Bourn KCB, Comptroller and Auditor General and **Mr Tim Banfield**, Director, National Audit Office, were in attendance and gave oral evidence.

Mr Marius Gallaher, Alternate Treasury Officer of Accounts, HM Treasury, was in attendance.

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL

MINISTRY OF DEFENCE: MAJOR PROJECTS REPORT 2006 (HC23-I)

Witnesses: **Sir Peter Spencer KCB**, Chief of Defence Procurement and Chief Executive, Defence Procurement Agency and **Lieutenant General Andrew Figgures CBE**, Deputy Chief of the Defence Staff (Equipment Capability), Ministry of Defence, gave evidence.

Q1 Chairman: Good afternoon, welcome to the Committee of Public Accounts where today we are considering the Comptroller and Auditor General's *Major Projects Report 2006*, looking at the Ministry of Defence procurement in the year ended 31 March 2006. We welcome back, for the last time, Sir Peter Spencer and Lieutenant General Andrew Figgures. You have both been regular witnesses to our Committee, so thank you for coming. Can we start by trying to make sense of this figure three, which we can find on page eight, which sums up what you have been trying to achieve? There is one thing I do not understand about this Sir Peter. You have reallocated expenditure of £448 million, which is that top line, from procurement into support. I do not know whether this has been trailed as some great saving, but this is just "pass the parcel", is it not? Does it not mean that other budgets are going to suffer?
Sir Peter Spencer: If I put this into context as explained in the Report, the changes in the projects when added up £448 million are actually reallocated elsewhere within the department because—

Q2 Chairman: Yes, that was the question I put to you.
Sir Peter Spencer:—that would seem to be a more appropriate way of judging the performance of the individual projects.

Q3 Chairman: Of course that begs the question: if it is such a good idea, why have you not done it before?
Sir Peter Spencer: Because in October 2005 I became increasingly concerned about the instability of the financial forecasts that I was getting from the project population, I charged the finance director to take a look at what the problems were. I was concerned about errors, I was concerned about instability and I was concerned about what appeared to be a lack of corporate grip on cost control. He put together four teams of four with some external expertise; each team led by one of the senior finance people within the Agency. They took a very deep dive into each of the project accounts and dug up the drains on the finances and discovered a whole host of anomalies in terms of cost elements which were not properly explained and needed to be challenged, a number of areas where there was potential for trade-offs to mitigate cost growth which seemed to have been overlooked, a number of areas where the commercial arrangements needed strengthening and a number of areas where frankly the accounting treatment was incorrect or at least open to question. We went through it project by project and we shared that information with the National Audit Office so they had complete clarity of what we had done. Then we put together the project summary statements in the form that you can see. At no stage did we try to claim that the totality was a cost reduction, but in terms of how we were holding individual project leaders to account for their projects, we clearly had to make sure that they were accountable for the costs which were actually relevant to their project as originally approved and, secondly, that they were costs which were actually in their control.

Q4 Chairman: But there is no new money, so just transferring support means there is less money for other aspects of support, does it not?
Sir Peter Spencer: In a lot of cases it was money the department was going to incur anyway but it was incorrectly earmarked against a particular project.

Q5 Chairman: Let us try to look at real savings then. If we look at this figure, the real savings which you are claiming, if we take that figure at the bottom of £781 million and we subtract the £448 million that we have been talking about and the £91 million which is in a little footnotet—this includes a cost reduction of £91 million due to a rebate and exemption from HM Revenue and Customs—we get to claimed savings of £250 million. Is that right?
Sir Peter Spencer: £242 million.

Q6 Chairman: In the past, you have struggled to achieve these hoped-for savings, have you not? How do we know that we are going to achieve these savings in the real world?
Sir Peter Spencer: If you look at those savings, they come from four main areas and in three of those four, they have already been achieved. There is the reduction in the GMLRS offtake. There is a reduction in the support vehicles offtake and there is a reduction in Brimstone. So far as the Astute savings are concerned, at the time of putting the accounts together that was the best understanding we had of the project costings and more than half of those have been banked already. I have to say, as I mentioned to the Committee last year, this is a project which is still being sorted out with the supplier. We are converging very rapidly now on finalising the contractual costs for the second and third submarines in the order and when MPR07 is produced, we will have a more definitive figure.

Q7 Chairman: Let me just ask about the submarine then. This is dealt with on page 13 paragraph 2.2. We now have an Astute submarine project which is more than £1 billion over budget. Only one boat is on contract. How can this arise? I still do not understand, despite being briefed on this by the National Audit Office, how this project can be £1 billion over budget? It is staggering.
Sir Peter Spencer: We did have a detailed discussion on this two or three years ago.

Q8 Chairman: Just remind us of it, because we do many other things, while you do not and it is fresher in your mind.
Sir Peter Spencer: Of course you do; indeed. First of all, we have on contract the design and build of three submarines and originally we negotiated a cost for the package deal, but in late 2002, when the company came to us and said that there were such major cost overruns that they could not cope with them, we entered into a negotiation to take a look at the causes of the cost increases and agreed a figure which the company should produce from its own funds to cope with the costs and recognised that the MoD had a liability in that we had jointly agreed the basis on which the design and build costs were going to be contracted for. We recognised that there was a large degree of optimism as to the financial benefits of computer-aided design and computer-aided manufacture.

Q9 Chairman: Tell us in simple terms what you have managed to achieve to deliver a more affordable submarine project and to rein in cost increases in your time in office.
Sir Peter Spencer: I took over a project where there was no understanding at all of the real costs of the programme, nor any real understanding of what the timescales were going to be and considerable uncertainty as to whether or not the new arrangements which had been put in place would be deliverable. Those new arrangements, just for the record, were agreement of a target cost incentive fee for the design and build of the first submarine and an agreement to negotiate again separately the costs of the second and third submarines. During that time we have seen a major improvement in the control of the build programme by the contractor and HMS Astute is on track to be launched later this year and is aiming now towards an in-service state which we think is pretty stable in terms of late 2008, as in this Report. The company has put in place a comprehensive Earned Value Management scheme and the project has been independently audited by several red team reviews. We are now convinced there is stability in the programme management.

Q10 Chairman: I will stop you there because you are getting into MoD procurement-speak. If this were to carry the nuclear deterrent, for instance, thinking aloud, how much extra cost would we be talking about?
Sir Peter Spencer: Can I make sure I have understood the question? Are we talking about were we to have contracted for a nuclear submarine for the deterrent on the same basis?

Q11 Chairman: Yes.
Sir Peter Spencer: The answer is that we would not. One of the major causes of the problems with Astute was the break in the programme for designing and building of submarines and the loss of the key skills in industry and the damage which we did to the supply chain, the second and third tier supply chain which produces equipment which is unique to nuclear submarines. If there are no orders, this gets quite badly damaged. The damage to the supply chain together with the problems of the re-design of the submarine because of the problems uncovered during the build meant that we had these huge cost increases as the programme came to a halt at the point where a very large number of people were being employed. This has caused us now to take a very long look at how we build the rest of the Astute submarine class and a lot of work is now going into how we repair the supply chain and get better design arrangements in place so that we get less expensive build costs. We should see the benefits of that in the later ships of the class. All of that will then restore the health of the submarine industry in preparation for the Trident successor submarine class build.

Q12 Chairman: Others can come back to that if they wish. Can we just have a look at Nimrod in the short time available to me? This is dealt with in paragraph 1.23. What I did not understand here was that

apparently we have a Nimrod aircraft, a war plane, which you put at risk in terms of its ability to operate in a hostile environment. Is that not a rather key drawback, to put it mildly?
Sir Peter Spencer: It would be a drawback, if that risk were going to turn into an actuality. It was a concern at the time which was properly identified. In other words, when asked a year ago whether the IPT guaranteed that that particular requirement would be met because of some concerns about the electronic warfare fit, he had to say there was a cloud on the horizon. Those problems have now been put to bed and that is no longer considered to be a problem, so that particular KUR will be delivered.

Q13 Chairman: Before I finish, can we have a word about the Guided Multiple Launch Rocket System on page 14, paragraph 2.12? The Armed Forces are going to have to manage with 700 fewer of these, are they not, that is 700 fewer than the operational analysis shows are needed? How is that going to work in practice?
Lieutenant General Figgures: Our original assessment was that the accuracy of these rockets was a function of their range. Work has now demonstrated that the accuracy is absolute, so if we were, for instance, to destroy a surface-to-air missile launcher or radar, whereas in the past we might have planned to fire three in order to give a high probability of destruction, we would now be able to fire one and have a similar confidence that we would destroy that. That is effectively how we would manage it.

Q14 Chairman: So you reckon you have the same capability.
Lieutenant General Figgures: We have the same capability.

Q15 Mr Mitchell: I am a layman, not a military man, nor an accountant for that matter. As I see the Report, you are effecting control and reductions by smoke and mirrors. You have transferred £448 million to other budgets, you have better management and reduction in costs of £242 million but that includes cutting down on quantities ordered and rockets and after all that fiddling with the figures you are still 11% up on estimated costs. You are just pulling a confidence trick, are you not?
Sir Peter Spencer: No, we are not.

Q16 Mr Mitchell: The £448 million has to come from somewhere, it has to come from some other budget and you are just compensating for overruns of these projects by shifting some of the cost onto other budgets. That is a confidence trick.
Sir Peter Spencer: No, it is not a confidence trick. All of this was transparent and declared and made very visible to the National Audit Office and you are reading the opinion of your auditors on this, not my opinion. Secondly, so far as reducing offtakes to live within our means is concerned, this is a principle which this Committee has recognised and endorsed previously; under circumstances where, for reasons which lie outside our control usually and we run into problems, we have to live within our means. On this occasion a good question for the GMLRS team was why did the UPC go up by £20,000 per round? The answer was that at the point at which they committed to contract that was the expectation we were getting with a high degree of assurance from the American project office—this was a multinational programme—based on the planned offtake. As it has turned out, the United States has delayed its offtake quite substantially, so the numbers which are being produced in the early batches are much smaller, the unit production cost therefore goes up as a non-recurring expenditure is shared by fewer missiles.

Q17 Mr Mitchell: But your inability to control all these costs is disguised by shifting them onto other budgets.
Sir Peter Spencer: No, it is not. What we have done is to look at what is appropriate, project by project, to assess how well the project leader is delivering against a requirement which was approved and against costs over which he sensibly has control. We did not add them up and present them as a score and under those circumstances it is a different question if you are judging the ability of the Ministry of Defence as a whole to manage its total procurement programme which is part of the argument that you find in the early part of this Report from the National Audit Office that there may be more appropriate ways of actually assessing the departmental performance. However, project by project this is the way I hold team leaders accountable.

Q18 Mr Mitchell: I wonder how much of these cost overruns are due to the fact that we are going for projects which are too sophisticated and trying to add new whistles and bells as bright ideas for expanding them and improving them come along. Some of them look like Cold War projects which have lingered on and which are going to be very expensive. Since the military commitment has mainly been in a kind of Kipling territory in Afghanistan and Iraq and Sierra Leone and also in Northern Ireland, why do we need Astute Class submarines? Why do we need anything beyond visual range air-to-air missiles? Who is going to be using these? The kind of warfare we are fighting now is a question of boots and vehicles and you have this highly sophisticated stuff which is incredibly expensive and which means that the boots and vehicles are not in adequate supply and are not bombproof and effective when they are there.
Lieutenant General Figgures: The question really is whether our balance of investment in various capabilities across defence is appropriate. Of course we are pretty sure of what is happening today, but it is jolly difficult to say what will happen in ten years' time and therefore we must be prepared to address a number of contingencies. The intent of various countries can change very rapidly.

Q19 Mr Mitchell: Yes, but that is science fiction stuff. In 20 years' time we could be in confrontation with China. There is no possible preparation you could make for that. What we are dealing with is the world in which our troops are now being used.

Lieutenant General Figgures: In the past you could look back at your predecessors who would have said similar things and found to their cost that they had to eat their words. We have a British defence policy, we have a British security policy, we have a mechanism by which we generate it, it is discussed by the administration, it has the direction of the administration and we then equip our Armed Forces to meet those contingencies which are identified by that policy.

Q20 Mr Mitchell: It still brings us back to the problem of why, given the fact that there are all these major projects, you cannot cut some of them, eliminate a whole programme rather than this struggle to conceal and spread cost overruns on the others.

Lieutenant General Figgures: Let us go back to Astute which you suggested we had no need for. What can we do with an attack submarine besides hunt other attack submarines? We can fire weapons from it and we have done in the recent past, not the Astute but its predecessors; we have fired Tomahawk missiles and we fired them in 1999. We may well have to do that in the future.

Q21 Mr Mitchell: Is there no possibility of making bigger cuts in some of those projects that were conceived at the time of the Cold War with a different defence environment?

Sir Peter Spencer: I would argue that in each case the utility of these weapon systems has been examined and found to be equally relevant to the current circumstances today and as far as we can plan for a very uncertain future. To go back to your earlier point, which was whether some of these are in the state that they are because of over-ambition in the requirement, I would absolutely agree with you. This is the point we have discussed previously and this is why we have totally changed our approach to capital investment decision making. One of the problems, if you look at the procurement arrangements when we went to contract for Astute, was that the financial exposure was well beyond the envelope of our understanding and before we really even knew how to design the submarine, we were trying to guess the costs of building three of them. I give you the exact parallel today with the aircraft carrier. We are in the process of taking the design of the aircraft carrier to a much finer degree of detail, with the full involvement of the shipyard production design engineering expertise as well, to ensure that we really do understand the costs. When we set those costs as a parameter to be judged against, then we will have a much higher degree of confidence and we have also improved our due diligence by bringing in external very far-reaching and in-depth financial reviews. We do try to emulate best practice in the private sector before we make big capital investment decisions. We have learnt from this.

Q22 Mr Mitchell: Is there an analogy with government computer contracts which always overrun and they are always trying to do too much and the system will not stand up to it and it becomes very expensive? Is there a situation in which you, the department, with a constant turnover of staff—I do not know how much continuity you have but the people dealing with the defence firms seem to be constantly changing and I do not know how long they stay there to develop the experience and the ability to control spending—are being oversold with all the technical knobs and whistles put onto it. The Bowman thing seems to be escalating all the time.

Sir Peter Spencer: Bowman is not escalating all the time.

Q23 Mr Mitchell: It is being expected to do more and it is getting more expensive to provide it.

Sir Peter Spencer: What we have recognised is that the only sensible way to enter into capital investment decision making is to go incrementally and that is what we are doing. It is precisely what we are doing on Bowman, so that when you go for the next upgrade for Bowman you recognise this is a new and additional requirement over and above what you originally set out with. This is hardly new. This is the way the Royal Navy has been contracting very successfully for its command systems for the last two decades.

Q24 Mr Mitchell: Do you have a high turnover of staff, which makes it more difficult to deal with controlling costs?

Sir Peter Spencer: We have been concerned about churn inside the Defence Procurement Agency and the new arrangements which we are putting into place will slow that down. We are now, certainly when we select IPT leaders, insisting that they stay for a given period and tying that to the delivery of key milestones of their projects.

Q25 Mr Mitchell: Why is it that 13 key user projects are now at risk, whereas last year it was eight? What has happened?

Sir Peter Spencer: What has happened is that people have taken a deeper look and taken more seriously the estimate of whether or not there is going to be a concern about delivering against a key user requirement. In the main they are simply pointing up an area where they have to work hard to mitigate that risk and the fact that the risk has been identified does not mean to say that it necessarily occurs, as I pointed out on the earlier Nimrod example.

Q26 Mr Mitchell: The Government now tell us that we are going to be updating Trident nuclear submarines and it is going to cost £19 billion. Where is that money going to come from? Is it an extra sum to the existing defence budget or is it going to have to be carved out of savings on existing projects?

Sir Peter Spencer: That is a question which the Government will have to sort out.

Q27 Mr Mitchell: I know, but what happened in the past?

Sir Peter Spencer: In the past the funding of Trident was handled separately from the mainstream defence budget, although there are bound to be some areas of overlap where, for example, there is a common component in a ballistic missile submarine and in a normal nuclear submarine.

Q28 Mr Williams: The Chairman has asked some of the questions I wanted to ask so I will be very brief and I apologise for the fact that I have to leave because of another meeting. Can you just tell me in relation to the missile launcher, and clearly one can see the mass capability value of it in dealing with a mass army attack, what depth of penetration the rocket has?
Lieutenant General Figgures: Is this the Guided Multiple Launch Rocket System?

Q29 Mr Williams: There are two. You have the guided bomb and you have the Guided Multiple Launch Rocket System, both of which are very precise on targeting. What I am getting at is that what came over with Hezbollah in Lebanon was that they had learned the lesson of going deep. What we know when we read about people talking of what is going to happen, it might possibly, hopefully not, in Iran, is that we are talking about targets which have been hardened. I am not aware of any weapon we have that is capable against such targets and indeed the Americans are doing a lot of research on it. Is either of these going to be effective against deep targets?
Lieutenant General Figgures: We would not use a Guided Multiple Launch Rocket System or a precision-guided bomb in the form of Paveway 4 against a deeply embedded high value target, but we do have munitions which are capable of dealing with targets of depth and indeed when I was in Baghdad I saw the results of that. Storm Shadow, and this is a very good indication of how effective the DPA are in bringing equipment into the hands of the fighting forces, was in fact brought forward so that we were able to use that munition on Telic. Going around Baghdad, you could see where that had been used to telling effect.

Q30 Mr Williams: There is depth and depth. A conventional missile will penetrate up to 100 feet possibly in soft earth, far less in more solid circumstances, less in rock, even less in hardened targets that may be in mountainsides and so on. Do we actually have anything that is capable of dealing with that sort of deep target? I know the Americans have been very concerned about it.
Lieutenant General Figgures: Indeed. As you appreciate, this is a sensitive area.

Q31 Mr Williams: Yes, but we are talking about your money and we have to talk about these sensitive things.
Lieutenant General Figgures: Yes, indeed. I do not particularly wish to speak about the specific performance in an open forum, though clearly I could in a closed forum or we could provide you a note with respect to our ability in that case. What we have is an ability to do that. It is never absolute in the sense that we would be able to engage all imagined targets, but of course people hide them in such a way against the most likely threat. There is a bit of cat and mouse in all of this business.

Q32 Mr Williams: You say you have the weapons. Are any of them dependent on non-conventional warheads?
Lieutenant General Figgures: No, they are conventional warheads.

Q33 Mr Williams: Non-conventional warheads?
Lieutenant General Figgures: It is a conventional warhead.

Q34 Mr Williams: The ones you have been talking about are all conventional?
Lieutenant General Figgures: Yes.

Q35 Mr Williams: We do not have any non-conventional?
Lieutenant General Figgures: Inevitably a non-conventional warhead would be more capable but again one goes back to whether we would use those. No, because non-conventional warheads would be part of the deterrent and we do not anticipate using the deterrent in a tactical force.

Q36 Mr Williams: I do not want to create an awkward situation for your or me. Could you let the Committee have a, if necessary, confidential note?
Lieutenant General Figgures: Yes, I should be very pleased to do that.[1]

Q37 Mr Williams: I assure you we shall treat it on that basis. That cuts off a lot of my questioning which will save the time of the Committee. We are told in the briefing that in June 2006 the enabling acquisition change study recommended some changes. It recommended cultural changes, behavioural changes, procedural changes and organisational changes in the department. Did it find anything you had got right?
Sir Peter Spencer: Yes it did. What the Report began by saying was that the work which we were doing in the Defence Procurement Agency under the initiative of DPA Forward and the work which was being done in the Defence Logistics Organisation under the procurement reform initiatives and the work which Andrew and his predecessor were doing in London with the military sponsor community were all delivering much needed improvements, but that we now needed to combine those efforts and make them a single programme which was more coherent than three separate initiatives which had delivered a great deal of improvement but which, in order to continue to get to where we need to be, needed to be reinvigorated and accelerated. It followed on from the defence industrial strategy, which was a fundamental reappraisal of the way in which we should look more sensibly corporately at

[1] Information provided, not printed

nurturing the supply base so that over the longer term we got better value for money for the total programme.

Q38 Mr Williams: How far, for example, will your defence equipment and support organisation be a cultural change and how far will it just be a shuffling of chairs?
Sir Peter Spencer: There have been cultural changes in play for the last four or five years. If I may just take an example, success and failure matter. A number of team leaders, in double figures, have been found not to have been delivering the results which are necessary and they have been quietly taken out of post and invited to do something that they are better at or be retrained in order to take it on. This has not happened in the past in the public sector. The Chief of Defence Logistics and I have been working on something called the joint working initiative for some time and we have been on a convergence course to ensure that our people work more coherently together and that all team leaders recognise that they are as accountable to the Chief of Defence Logistics for his future programme of in-service support as they are to me during the initial acquisition phase. So an awful lot of that is in place already. Where we have fallen down is on achieving consistency. We have had some examples which we have discussed in this Committee room of projects which have gone really well, where there has been really good engagement across the whole of team defence in terms of the front-line user, the military sponsor, my project team, the DLO (Defence Logistics Organisation) and industry. We have had some very good results which have stood up when the NAO have done their audits against other projects and other nations in other industrial sectors; they have stood up extremely well. We have unfortunately not managed to get the consistency with all of the projects doing it, so it is the element of consistency which we are working on and in order to deliver the consistency, we have recognised that there is a shortage of some key skills which we need to work on and we need to train our people better.

Q39 Mr Williams: How far is this inconsistency attributable to what the NAO refer to as a high turnover of staff? At which levels and why have you suffered from that high rate of turnover and how far have they influenced the problems you have been describing?
Sir Peter Spencer: It is a material factor and I would say that where we have been most vulnerable is at the cohort of band C and band B grades, where it has been possible for people to achieve advancement from one grade to the next by changing their jobs. That has been because of the personnel management system rules which apply across the DPA as they do across the rest of the Civil Service. One of the changes which will be introduced from April is that we will exercise much more management control over that and will prevent people from moving from projects if it is not in the corporate interest for that to happen.

Q40 Mr Williams: Prevent them by demotivating them or by buying them out of moving, in other words compensating them for the move they are not having which might have meant a promotion.
Sir Peter Spencer: We also recognise that if people have done particularly well and deserve promotion, then they can remain in that post at the new grade and at the new pay rate if they get promotion on merit as opposed to simply competing for a job elsewhere. I do not know of any company which would allow its employees to lillypad-hop from one job to another and remain in employment, if it actually put a project at risk. We need to exercise the same corporate discipline over our workforce.

Q41 Mr Bacon: I should like to start by asking Mr Banfield of the National Audit Office a question. I just want to be clear in my own mind in relation to this cost reallocation exactly what is going on, for example at paragraph 1.8, where is says "The Departmental Review process identified 18 occasions in seven projects, where activities included in the Equipment Plan allocations and worth £448 million, should be moved to other budgets within the Department[cdq]. I take it that that has been carefully worded and when it says activities ... should be moved to other budgets it means precisely that, not that the money is being moved. Is that correct?
Mr Banfield: That is correct.

Q42 Mr Bacon: Essentially, other parts of the MoD are being hit with £448 million of activity which they previously did not have to finance, but which they now do have to finance and they do not have £448 million extra with which to finance it.
Mr Banfield: That is right. Paragraph 1.9 makes this clear.

Q43 Mr Bacon: I was coming to paragraph 1.9. May I just, for my own clarity, ask one more question about paragraph 1.8? The £448 million stays where it was. It is sort of liberated now, is it?
Mr Banfield: Yes.[2]

Q44 Mr Bacon: It stays where it was and can be applied to the equipment programme itself rather than to, shall we say, training or in-service costs or whatever it is?
Mr Banfield: That is correct.

Q45 Mr Bacon: So there is still £448 million around, but it is just being spent in a different way.

[2] *Note by witness:* The £448 million is a forecast of potential cost, not actual expenditure, and so it is 'liberated' from the Project Summary Sheets of the Major Projects Report but the requirement for activities such as support and training still remains and money will have to be found to meet these. There will be no extra money to spend on the Equipment Programme and as such there will be no additional capability/ equipment, although the Department has protected its other major projects from reductions in numbers or scope.

Mr Banfield: Yes.

Q46 Mr Bacon: Coming on to paragraph 1.9: "By transferring the costs elsewhere the Department potentially may have to forego other activities which could previously have been provided". Am I to take it then that figure three is a description, because it is a description, among other things, of the £448 million, of the other activities that may have to be foregone?
Mr Banfield: By moving some of those things to other budgets and other parts of the department then, as paragraph 1.9 says, they have either got to find savings within that which may be from efficiencies or they would have to move something else out of that budget so there would be something foregone.

Q47 Mr Bacon: It seems to me that to understand this properly, we need to understand figure three properly and in much more detail. For example, Sir Peter, just to take one example, where it says Suppliers' corporate costs there are three instances where there is a total cost reduction of £17 million and there are 15 instances of reallocation to other parts of the department yielding £431 million. I take it that you know what those three instances are and you know what those 15 instances are?
Sir Peter Spencer: Yes I do.

Q48 Mr Bacon: Similarly, where there is a reassessment of the quantities required and there are three instances of that yielding £139 million, you know what those three instances are?
Sir Peter Spencer: Yes I do.

Q49 Mr Bacon: And all the way through. In that case, could you send us a detailed note in which you set out, not in this rather summarised form but in a detailed form with each of the 44 instances, what it was, what the cost reduction for it was, what the percentage of the total cost reduction was, so that we can have a fuller picture? Is that possible?[3]
Sir Peter Spencer: Yes, very possible and very welcome because, inadvertently, what Mr Banfield has told you is not entirely accurate. Some of the costs which were transferred are historic costs, sunk costs and therefore have been spent already and, by way of example, the transfer of some assets into the Defence Logistics Organisation saved £111 million of costs of capital charge to the DPA budget, which is an indirect cost, it is not real money which is paid, but the cost which is then picked up in the DLO turns into a depreciation cost.

Q50 Mr Bacon: Will you be able to include all of that explanation in your note?
Sir Peter Spencer: We will explain all that.

Q51 Mr Bacon: While you are doing it, could you, for example where it says Reassessments of quantities required, put what the first assessment was and what the reassessment is so we can see what the change of quantity is for each item and similarly for the more appropriate accounting treatment, what the old accounting treatment was and the effect of it and the new accounting treatment and the effect of it.
Sir Peter Spencer: We have all of that in detail, all of which was given to the National Audit Office.

Q52 Mr Bacon: Good. And for the Re-definition of some elements of the projects the old definition and the new definition. Is that possible? It is a very thorough unpacking of figure three. That would be extremely helpful. May I ask about page 23, paragraph 21 in appendix three on Skynet, the communications satellite? It says The contractor that is Paradigm has contributed to the costs of building the third satellite from funds yielded by the financial restructuring. This was a refinancing that occurred when the new deal was signed in December 2005, is that right?
Sir Peter Spencer: Yes.

Q53 Mr Bacon: How much was the gain?
Sir Peter Spencer: We have not yet seen the gain as a detailed figure.

Q54 Mr Bacon: It is one figure with pounds million at the front and a numeral afterwards, is it not?
Sir Peter Spencer: I am going to have to go and take advice on that.

Q55 Mr Bacon: You do not know how much Paradigm gained from its refinancing?
Sir Peter Spencer: I know in terms of how we renegotiated the contract and I know that what they stood to gain was in terms of less risk to them which we could not bear—

Q56 Mr Bacon: We are talking about millions of pounds. This Committee has looked at refinancings in PFI projects repeatedly and, as you will know, there has been some concern because refinancing gains have not been shared with the public sector as a result of that, largely because the Treasury prohibited it. As a result of this Committee's interest, particularly Mr Williams, early on, it is now standard that such PFI contracts have a refinancing clause in them. In this case there appears to have been a gain-sharing trigger where, unless that threshold were crossed, there still would not be a share and indeed it refers at the bottom in note 17 to what that threshold is ... a threshold equity Internal Rate of Return of 16.5%, so I presume that whatever the gain was, it was less than 16.5% internal rate of return on equity, but I still would like to know what the gain was.
Sir Peter Spencer: And I will go and find that figure out for you.[4]

[3] Ev 17–21

[4] Ev 22

Q57 Mr Bacon: Could you say what the value of the equity was in the deal? Presumably, in order to know that it was less than 16.5% internal rate of return on equity, one must also know—at least someone must know—how much equity there was.
Sir Peter Spencer: I can tell you that a satellite is around £300 million to build and £50 million to launch.

Q58 Mr Bacon: That does not really help. Most of these deals, particularly PFI deals, are made up of a cocktail of equity from the investors and then various different kinds of subordinated debt, mezzanine debt, senior debt, whatever it is, different kinds of borrowing as well as equity. What I am asking is what the value of the equity is in that cocktail.
Sir Peter Spencer: I need to go and look at the exact figure.

Q59 Mr Bacon: What is the value of the debt?
Sir Peter Spencer: I need to look at these figures and send you a detailed note.

Q60 Mr Bacon: Okay. The total professional fees for the deal. When was the deal, 2003 or 2001? I cannot remember.
Sir Peter Spencer: The preferred bidder was selected in 2002, the contract was placed in 2003.

Q61 Mr Bacon: Then there was a restructuring in 2005. Only two years later, it was restructured. So what were the professional fees that the Ministry of Defence paid out in total in 2003 to all the professional advisers? Do you know?
Sir Peter Spencer: We would be able to provide them to you.

Q62 Mr Bacon: And in 2005?
Sir Peter Spencer: We will be able to provide those as well.

Q63 Mr Bacon: What about for Paradigm? Do you know?
Sir Peter Spencer: What they paid?

Q64 Mr Bacon: Yes; what were their professional fees?
Sir Peter Spencer: I will break that down into the detail that we have.

Q65 Mr Bacon: What is the annual unitary charge that was original payable to Paradigm under the first deal?
Sir Peter Spencer: I think it is £235 million a year.

Q66 Mr Bacon: £235 million a year. That was the original, before the restructuring?
Sir Peter Spencer: If you want the comparison, I am going to need to go back and look at them.

Q67 Mr Bacon: Just from memory, the Treasury building over the road is £14,037,000 a year for 35 years and I know that the MoD building was £55 million. What I am after is the annual unitary charge, what was it originally under the first 2003 deal and what it is now under the 2005 deal?
Sir Peter Spencer: It is exactly the same for the first 15 years.

Q68 Mr Bacon: So the restructuring did not alter the annual unitary charge.
Sir Peter Spencer: It did not alter the annual unitary charge; it extended the duration for which the service was going to be provided.

Q69 Mr Bacon: By another year to 15 months?
Sir Peter Spencer: Either 24 months or 39 months, depending upon whether we needed to launch the fourth satellite.

Q70 Mr Bacon: And did the payment then get made for that much longer? Did the annual unitary charge therefore carry on for the extended period?
Sir Peter Spencer: Yes it did.

Q71 Mr Bacon: You said for the first 15 years. If the deal has been extended, the value of the annual unitary charge payment will not change, it will just go on for longer, is that right?
Sir Peter Spencer: Yes; it varies slightly in the final few years.

Q72 Mr Bacon: I would like you to send a note with the accurate figures, but £235 million per year for each of the years of the PFI contract. Is that indexed? Is there an inflation assumption built into that? The Treasury use 2.5%. Most of these buildings, the government buildings we see, have used an inflation—
Sir Peter Spencer: I think I have seen the figures at constant prices, so I will need to go back again.
Mr Bacon: If you could send us a note explaining what the payment is and what the total value of the payments when they are all added together is expected to be, taking account of inflation, that would be very helpful.

Q73 Mr Khan: Sir Peter, could you tell me how much we spend on defence as a percentage of our GDP?
Sir Peter Spencer: 2.7%.[5]

Q74 Mr Khan: Yes, I think that is right. If you look at the last 10 to 15 years, what is the direction of travel? Is it about the same, more, or less than previous years?
Sir Peter Spencer: It went up a few years ago and having come down—

Q75 Mr Khan: Do you mean that in the last ten years it has gone up?
Sir Peter Spencer: I need to go back and have a look at the figures, but there was a real increase of a small percentage year on year which was brought in by the

[5] *Correction by witness:* The correct figure is in fact 2.5% for financial year 2006–07.

current Government following a period where we had ramped down from much higher levels of expenditure during the Cold War when we took the peace dividend. There was then a recognition that there was a major difference between the Cold War and today. In the Cold War we had a lot of contingent forces which we very rarely used for real: today we are actually using a very large proportion of our Armed Forces and the cost of operations is much higher than if you have troops and air forces and fleets standing by to do something but not actually engaging in live operations.

Q76 Mr Khan: Of the increased investment in our defence, what about the proportion spent on weapons? Has that gone up as well?
Sir Peter Spencer: It is sensibly about constant as a percentage of the defence budget; it varies a small amount year on year as individual programmes wax and wane.

Q77 Mr Khan: In relation to the procurement of weapons, as far as the MoD is concerned, there have always been problems in relation to delay and overspend. Is that a fair summary or is that unfair?
Sir Peter Spencer: No, always is too strong a word. It has happened far too often.

Q78 Mr Khan: Is that a recent phenomenon or has it always been the case?
Sir Peter Spencer: It has been the case for as long as most of us can remember and we have repeatedly looked at the causes and identified what we would need to do to improve.

Q79 Mr Khan: Is it fair to draw an analogy between other public services where there has been huge investment by this Government but, it has been argued, not sufficient reform, so we have not seen the proportionate gains in investment because of the lack of reform in those bodies? You will know the argument has taken place, for example in the health service, about such things. Is that fair?
Sir Peter Spencer: No, I would say it is wholly unfair. I would say in terms of the equipment which we have been producing and in terms of its performance, if you judge us against any other department of defence in the world, we stand up extremely well as value for money. Where we have got it badly wrong is to be wholly unrealistic in setting the parameters against which we are going to be judged. For example, we present the Astute Class submarine as a disastrous failure; in fact, compared with the costs we know the Americans are paying for nuclear submarines, they are still, even with the cost overruns, very good value.

Q80 Mr Khan: To be fair, the taxpayer, through ministers, seeks your advice and guidance. Do you tell them to increase investment in our defence capabilities, give them parameters and say you can deliver? It is not the fault of ministers or taxpayers, is it?
Sir Peter Spencer: No and what I have been doing over the last four years is to improve the quality of that decision making and I can demonstrate the improvements in terms of the projects which have been approved over the last four years. The battle has been damage limitation on projects which were let a bit longer ago under rather different circumstances where we failed to do due diligence properly.

Q81 Mr Khan: I will let you comment on three projects which spring to mind. I will not talk about the Astute Class submarine as the Chairman already has, but the Guided Multiple Launch Rocket System: no cost growth in-year because the forecast increase of £140 million was fully offset by a reduction in rocket quantities. We have the Trojan and Titan armoured engineering vehicles, a £6 million increase and a five-month delay, the Type 45 destroyer cost has increased by a £107 million figure and will now be in service at least two years late, an additional seven-month delay. Not really value for money is it?
Sir Peter Spencer: No and that is why we are revisiting all those projects which were let so long ago, in terms of the way in which we do our capital investment decision today.

Q82 Mr Khan: Let me ask you on that point. The Chairman and Mr Bacon have alluded to the projects with the increase in costs being transferred and the delegation of responsibility, which is all well and good and I understand your explanation for that in relation to the costs and the delay. However, it seems to me you have not really looked at the fundamental reasons behind the cost increases. You have moved the money elsewhere so the figures add up and it is more palatable to us, but my analogy with other public services remains the case. It seems to me the taxpayers increase investment in the MoD, but there is a culture where you are not willing to accept reform and what you are doing is moving budgets from different columns rather than dealing with the real mischief.
Sir Peter Spencer: No, I reject that utterly. We have faced up to the problems. I have explained to this Committee previously that there are some fundamental faults in the way in which we have run the business and we have made substantial changes. However, these projects last for very long periods and we are still struggling to manage the consequences of contractual arrangements which are yielding very difficult results financially. What that has changed is the way in which we are making our future investments.

Q83 Mr Khan: Help me with this. I have constituents who express concern when they see your track record over the last few decades and they are told by me that we need to spend £19 billion a year for the submarines to be built and the ministers have been reassured by the experts that they will take 18 years to build these submarines. How can I convince my constituents that there will be no overspend and no delay, bearing in mind what the NAO said this year and last year?

Sir Peter Spencer: The NAO have actually identified that we are improving and if you look at the figures which are in this Report about in-service date slippage, which does have a strong influence on cost, the in-year slippage of in-service dates for the top 20 projects four years ago was 144 months; a year later it was 133[6], then it was 45 and for this project (ie. Report) it is 33. Since 2003 we have approved 36 new Cat A to C projects, that is to say projects which are in excess of £20 million, in fact most are in excess of £100 or £400million. Of those 36, 34 are at or under budget and 33 will meet or beat their own in-service dates and 35 will meet their KURs. There is clear evidence that we are moving in the right direction. Meanwhile I have to manage the consequences of the older contracts and I assure you that I have not put this together in a way to try to convince you that the financial position is any different from what it actually is. It is an insult to the NAO to assume that. They see the figures they audit them and they present them. There was no cover up, there was no smoke and mirrors here, but there is a focus and when I hold a project leader accountable, he has to be accountable for something which he can own—

Q84 Mr Khan: How many project leaders have been sacked in the last 12 months?

Sir Peter Spencer: In the last 12 months, it would be three; in the last four years 12.

Q85 Mr Khan: What is your budget?

Sir Peter Spencer: It is £6.5 billion.

Q86 Mr Khan: A £6.5 billion budget, with the overspends and delays we are talking about, and you have sacked 3 people.

Sir Peter Spencer: I said 12 over four years.

Q87 Mr Khan: I beg your pardon; an average of three a year.

Sir Peter Spencer: When you consider—

Q88 Mr Khan: May I move on?

Sir Peter Spencer: If I may finish ...?

Q89 Mr Khan: No, you cannot finish. I ask the questions. You talked about the need to convince people.

Sir Peter Spencer: Perhaps I could send you a note to complete my point just to get balance in this discussion Chairman.

Chairman: I will ask you the question at the end, if you want to answer. Do not worry.

Q90 Mr Khan: I am all in favour of re-branding and the ability to try to convince people of change. When one thinks of New Labour, Sellafield and other examples, we can see the benefit of that. I can see you have re-branded by having a new organisation called the Defence Equipment and Support Organisation. How are we going to measure the success of this in achieving your goals of better delivery of defence capability and when?

Sir Peter Spencer: You will see the continued improvements, as you have seen already year on year in the way we have delivered the current capital investment projects. You will also see metrics which form a judgment on through-life capability in terms of value and in terms of the improvement year on year in support costs. Those will be able to be audited and verified independently and presented to Parliament to exercise its normal scrutiny function.

Q91 Mr Khan: It starts in April 2007. How soon before we can expect to see the fruits of the reorganisation?

Sir Peter Spencer: It organises on 1 April and it will produce its new metrics for public examination on 1 April 2008. You will then be in a position to form your own judgment.

Q92 Chairman: I think Mr Khan's question was quite a good one. It is something that we laymen find difficult to understand, when dealing with such a massive budget with such huge overruns. Why are so few project managers sacked? Something must be going wrong? Who bears responsibility? It is very difficult for us to understand? You said you did not have enough time to answer Mr Khan's questions, so now you can have as long as you like.

Sir Peter Spencer: Thank you. Let us take a look at the team leader of Astute who has come in to sort out the problem and yet there are problems still flowing through. Until he gets to the bottom of a very, very complex problem, there is no way we can start holding them accountable for the outcome when we are still trying to understand the scope of the problem. So it just would not be sensible to move him out on the basis that he had six months to do it, he did not do it, bang let us get the next one. It is the way some of the American companies I deal with operate and it is absolutely hopeless; you do not get any continuity at all. Some of the problems here have been because of decisions which were taken collectively by the Ministry of Defence and then the IPT leader who comes along is the person who has to deliver, but unless that individual has the opportunity to do some real due diligence on what happened in the past, it is actually quite difficult, in fact it just would not be possible legally, to start firing people simply because they did not understand the problem which had been handed to them. Because we are looking through all of the financial arrangements in every project in so much more detail, we are converging on the ability to hold people to account much more tautly, but it comes with a recognition that you cannot do that if a decision is then taken centrally in the Ministry of Defence to say arbitrarily what the budget of a project is going to be if the project team leader has recommended something which was rather higher. That was something which has characterised behaviour in the past when we have tried to make the budget spread across too many projects. We have

[6] *Correction by witness:* The correct figure is 62 months.

talked previously about over-optimism; that over-optimism is being rooted out, but it will take time because of the lead times between start and finish before we see this on a more regular basis. We can only look at the track record of the projects as they go back to approvals later on in time.

Q93 Chairman: This is the sort of approach that works well in British Aerospace does it, the approach that you are now adopting? You are getting to a situation where people will be as accountable in your organisation as they would be, say, in British Aerospace for the sake of argument.
Sir Peter Spencer: Yes, they are and this is central to the agenda of the new personnel management arrangements which will prevail in the new organisation. There will be much tighter accountability for success and, I have to say, more appropriate rewards, because there is a balance in this.

Q94 Mr Curry: Just for the information of my colleague here Hunter-killer submarines do quite a lot of things which we do not know about. My son served as a chief supply officer on Trafalgar for a number of years and I still have not prised out of him where he spent most of his time. When a project like Astute overruns, then the boats that it is going to replace have to remain in service longer. I think I am right that Trafalgar was the first of that class of boats.
Sir Peter Spencer: Yes, it was.

Q95 Mr Curry: Where does the cost of maintaining in service any piece of equipment which was due to be phased out fall within the budget?
Sir Peter Spencer: That falls with the Defence Logistics Organisation which then has to look at the cost of running on a submarine for longer.

Q96 Mr Curry: In the case of Astute, what are the implications for the maintenance in service of boats which are getting increasingly knackered, to use a technical expression; they are operating longer spells than was originally envisaged, there have been huge changes in the dockyard workforce, members of crew are being kept on board much longer even in port in order to supervise work being done because the skills are not there in the civilian workforces? What are the implications for the continuing existence of weapons systems which would have been replaced?
Sir Peter Spencer: If the point you are making is that the cost per year of running on an old submarine for longer is likely to be more than the in-service costs of a new submarine had it been delivered on time, that does put an initial pressure on the budget which needs to be managed, which adds to the focus on managing the whole to the timelines. For Astute, since the programme was reset, we have held to those timelines; in fact over the last two years the programme has come forward by two months.

Q97 Mr Curry: The example you just gave of management was that the team leader on Astute is still digging into what has gone wrong with the management structure.
Sir Peter Spencer: No; he is still teasing out the final cost of completion, which we will not know until we have set the price again for boats two and three. We are very close to doing that. In fact the advice has been tendered to the Investment Approvals Board and the expectation is that we shall shortly be re-setting those contract prices and I believe you will see the consequence of that in MPR07.

Q98 Mr Curry: I just wanted to be sure in my mind, because the process was still going on, that everything was not at a halt while that investigation was taking place.
Sir Peter Spencer: No, no, no.

Q99 Mr Curry: There is not an imminent new delay.
Sir Peter Spencer: No, there has been no delay whatsoever.

Q100 Mr Curry: May I look now at two projects, both of which are heavily dependent on Airbus? There is the heavy-lift aircraft and there is a tanker aircraft. Quite a lot has happened at Airbus, some of it since your Report was written. We have seen the crisis not quite overwhelming the A380, a lot of speculation about further management changes, a lot of speculation about the need to rationalise production facilities. We have seen British Aerospace selling, for a lot less money than it thought it was going to get, its stake in the business and there has of course been some speculation that other projects might suffer in the turbulence of trying to get the A380 right. Could you give us an indication of the present state of play on those projects?
Sir Peter Spencer: May I make sure I understood what you meant by both projects? The A400M is—

Q101 Mr Curry: The other one is a tanker aircraft.
Sir Peter Spencer: The future strategic tanker aircraft.

Q102 Mr Curry: Yes, which is based on the Airbus.
Sir Peter Spencer: So far as the second one is concerned, which is a pretty straightforward production programme with not a great deal of modification of the aircraft, I do not see there being any particular consequences, although as we close in on the final stages of the deal we will of course be looking at the extent to which EADS, as a major member of the consortium, will be financing the deal because they have some stake in this in addition to other financial backers. There has been no indication whatsoever that is going to be a problem. So far as the A400M transport aircraft is concerned, I have shared these concerns, as you would expect. It is a multinational programme and the countries with the biggest offtake are Germany and France. My French and German counterparts and I have met with our other international colleagues pretty frequently, including with the company, to demand

from them greater visibility of the status of the A400M programme and to see the evidence that the skills which they will need to complete A400M will not be diverted into the A380 problems. I have to say that so far as today is concerned, Airbus Military have hit every one of their milestones, they are in the process of setting up the production line in Spain at the moment, the time contingency they had in the programme has been virtually used up; that is a lead indicator of a problem brewing. We insisted that we had our own technical experts briefed properly on the technical issues surrounding A400M so we could form our own judgments and there is a concern that there might be a slip in the timescale, but we do not yet have clarity of that from Airbus Military. That is central to our current conversation with them. Having said that and notwithstanding the problems they ran into on the A380, I have to say this is a very professional outfit which is very determined and certainly is bringing a sort of commercial approach to this which is different from the usual defence manufacturing approach because of the way they do their normal business. I cannot rule out that they will actually recover the loss of contingency they have and get back on track. As it happens, we do not get delivery of the first aircraft; that will be France. So there is a slight cushion for us anyway at the front of the programme. There is nothing in the arrangements at the moment which would suggest to us that we are in any difficulty in terms of them using any problem they might have to try to claim more costs for the programme.

Q103 Mr Curry: I remember last year we had a long discussion about the various tranches for Tornado and whether people would take up their tranches. As far as this project is concerned, is everybody still holding to their intentions as far as the volumes are concerned?
Sir Peter Spencer: They are all committed to their offtake. The 180[7] aircraft in that first contract are all distributed to the nations. We have 25, Germany has 60, France has 50, Spain has 27 and then Turkey has about the same as us, Belgium has a smaller number and one for Luxembourg.

Q104 Mr Curry: You will recall that when the announcement about the order for this was made—I think it was when Geoff Hoon was Secretary of State for Defence—there was some criticism on the grounds that this was a sort of gesture towards Europe, whereas we had always had a Lockheed Hercules fleet and indeed I think I am right in saying that we had ordered Hercules as a sort of stopgap at one stage in this. Is the additional added value of this aircraft worth the greater amount it will cost ultimately in service over continuing the tradition of buying Lockheed?
Sir Peter Spencer: I shall turn to the general in a minute to talk about the operational utility, but it is clear to me that A400M can do things which Hercules cannot in terms of greater lift capability. So there is a utility which is very different from what you would get from Hercules and indeed from what you get from a C17, a much bigger aircraft.
Lieutenant General Figgures: Why would we do it? It carries twice the payload 100 miles further and 100 knots faster than C130, which in terms of tactical air transport is well worthwhile having. It also has extremely good rough runway characteristics. It can land on rough runways and it is economical, state of the art, the whole business of support will be appropriately addressed. In terms of whether this is something we require, yes, it is something we require, yes, it will fill a gap as the Hercules fleet comes to the end of its life, yes, it will fill that gap and actually it fits in very well with having an element of C130J, A400M and the C17 for excess cargo. It is a sensible decision to take.

Q105 Mr Curry: The decision of British Aerospace to sell its stake in the Airbus project—and you will again be aware that there is some sort of political echo of the British Government saying that if they are not included in projects this will have consequences for other sales—as far as your sector is concerned, has not had any adverse spin-off or consequences from a perception of Britain baling out?
Sir Peter Spencer: No; quite the reverse. EADS are very keen to remain a supplier to the United Kingdom Armed Forces. In the Government's conversation with the company, with Lord Drayson and DTI ministers taking the lead, there is a very clear understanding that the Government will be dealing with the total volume of business and total interaction with that company in order to secure the best outcome for the United Kingdom.

Q106 Mr Curry: Just to come back quickly to Tornado, what would have been the implications in terms of the unit cost et cetera of the Saudis not buying the aircraft which they intended to buy or may well be about to sign up to we are told?
Sir Peter Spencer: There will be no impact on the unit cost of the aircraft for which we have already contracted.

Q107 Mr Curry: But there are tranches which are still to be confirmed, are there not?
Sir Peter Spencer: If you recall, we discussed this particular matter *in camera* previously. I am very happy to return to that *in camera*.

Q108 Mr Touhig: The Chairman and a number of members have referred to paragraph 1.8 on page eight in order to help us better understand the departmental review process and the reasons behind it. Hopefully your note on figure three will give us more information there. The Report makes clear that with this review and this reallocation of £448 million, this re-categorising of the expenditure, you were seeking to hide the fact that there were increased costs in these projects.
Sir Peter Spencer: I was not seeking to hide anything.

[7] *Note by witness:* Sir Peter Spencer assumed that the question in fact referred to the A400M project, so his answer is based on the plans for A400M.

Q109 Mr Touhig: You were not?
Sir Peter Spencer: No, no, no. We were very clear on this. Perhaps I might just try to explain it again. If I have a team leader who, as with the Sting Ray project, decides that he might pick up a bigger bill related to a planned arrangement with a company because an order which was going to go through on the same timescales did not, therefore it affects the throughput through the facility and therefore the overhead recovery rate is greater, it does not seem sensible to hold him accountable for that in terms of a cost increase. That is something which the department will negotiate corporately anyway with the company concerned. We decided, with the full knowledge of the National Audit Office, this was how we proposed to deal with those consequences, to separate out that element of cost which was a corporate cost so that the costs for which I was holding the team accountable in terms of the measure of how well that project was doing were related to the delivery of the project against what was originally approved and against the costs over which he sensibly had control. So the costs are exposed, but they are not hung round his individual neck. What we have here is a year-on-year comparison by project which is different, when you sum up those individual numbers, from what would be the departmental sum if you looked at the total way in which we are doing the total volume of business with industry.

Q110 Mr Touhig: The Comptroller and Auditor General's Report at paragraph 1.9 says that your re-allocation was justified, but it did not make any saving to the department and in the advice given to ministers it was made clear that there would be no saving.
Sir Peter Spencer: It was very clear to ministers.

Q111 Mr Touhig: In answer to the Chairman you said that this £448 million had been incorrectly earmarked and you have elaborated a little bit in answer to my first question, but, so I can be clear, in putting together a package for these various projects, the department had overestimated the amount of money it would need by £448 million.
Sir Peter Spencer: In some areas; for example the transfer of spares for Nimrod from the DPA to the DLO, when the project came off the rails we had bought a lot of the equipment for the full number of aircraft. As you know, we ended up only being able to afford to buy a smaller number, therefore the equipment which we had bought originally to put into an aeroplane was sensibly re-categorised for use with the DLO as an in-service spare. There was no central requirement for that.

Q112 Mr Touhig: I can understand the rationale behind your action. What I am getting at is that £448 million is pretty big bucks and here you have a budget head over a series of projects for money which you have said to the department you need and you did not need. It seems to me that was not very efficient.
Sir Peter Spencer: I never claimed at the moment that we are efficient in terms of our financial management. What I will claim and can demonstrate is that we are getting better. I share your frustration that we cannot get better faster and I am not trying to make excuses, but the NAO are well placed to see just how complicated some of these problems are. It would be wholly misleading for me to turn round and try to tell the Committee it will all be right next year.

Q113 Mr Touhig: I would not expect you to say that at all. I am just getting at the point that it is a lot of money and I can remember when I was a defence minister that if I had had my hands on £448 million spare I might have found something very worthwhile to do with it. Can you tell us how you are getting to grips with the fundamental reasons for your cost increases, your cost overruns? What is your strategy for that?
Sir Peter Spencer: The strategy is to spend longer in the so-called assessment phase so that we actually understand to a much greater degree what it is we are taking on and to improve the due diligence which we bring to bear to examine those costs, involving a much greater degree of independent examination than we have previously had. For example, on the aircraft carrier project we had a red team review led by Sir John Parker to take a look at the technology issues and the build strategy issues and the way we were organising the industrial base and Deloitte led a team to do a completely independent audit of the financial arrangements in the project. Those were presented to the Investment Approvals Board as independent advice for them to compare with what was being produced in the project. Had we continued in the way in which we were going, we would have declared main gate for the project at the date which had been originally announced in May 2004. It is very clear to me that had we done that against the specification which we had on the table at the time and against the relatively poor knowledge which we had of what the real cost drivers were, I would be sitting in front of you with a cost increase in excess of £1 billion. Those days are over. We are taking much more care and we are much more incremental and when we set those parameters we are much clearer as to what the costs are going to be. As I was mentioning earlier, the track record to date of projects which have been approved in the last three to four years is considerably better, but that comes with a very big health warning which is that it is in the first two or three years after the capital investment decision which has been taken where it is most difficult to spot where a project is actually moving off course. Under those circumstances we should be highly sceptical before we declare that we have actually got on top of this. We have not yet got on top of this in every case and there are many other things which we are doing, including and especially increasing the amount of relevant training that our key members of staff get, particularly in finance, in commercial and project management.

Q114 Mr Touhig: The Report does say that the cost reduction measures are not applied consistently. So is the approach you are now telling the Committee you have something you have had since you have been chief executive or is it something you have now evolved as a result of this Report?
Sir Peter Spencer: I began this when I did due diligence on arrival in May 2003 and recognised that the dreadful result in MPR03 was not just a one-off, it was indicative of a deeper more systemic problem, which we needed to bottom out. That has been the focus of the work I have been doing for four years.

Q115 Mr Touhig: The Report does point out in the project summary sheets, and this is just one example, that you removed the Bowman installation kits from support vehicles, saving £33 million in 2002-03, to re-instate them the following year at a cost of £70 million. Is it your ambition that sort of thing will not be happening in future?[8]
Sir Peter Spencer: That is my firm intention.

Q116 Mr Touhig: How did you get to this point? Why did the department take a decision to remove this kit saving £33 million and to put it back at twice the cost the following year?
Sir Peter Spencer: I would need to go back and look at the specific details surrounding that because although I am accountable for it, it happened before I took over the post.

Q117 Mr Touhig: It would be helpful if you could perhaps drop us a note on that. Does the department consider the impact on operational capability of measures you are required to take, you need to take and you desire to take to combat rising costs?
Sir Peter Spencer: Yes, it does. The way it works is that in the first instance, if we are looking at these proposals, we talk to General Andrew and his staff in terms of the operational consequences and I talk to the Chief of Defence Logistics and his staff in terms of the impact it would have on their budgets. We then draw up a list and prioritise those in terms of what are the least worst measures to be taken. On this occasion the list of measures was presented to the Defence Management Board, to CDS and PUS and the Service chiefs had visibility of what was happening.

Q118 Mr Touhig: Not just impact upon costs but impact upon any future operation which our forces might be engaged in.
Sir Peter Spencer: We start with operational impact.

Q119 Mr Touhig: You cut the number of recovery vehicles needed by 26, from 314 to 288. Can you assure us that will have no impact on our operations?
Lieutenant General Figgures: As you will also see, we have reduced the number of support vehicles and we have done that in line with defence strategic guidance. There is a ratio between recovery vehicles and support vehicles.

Q120 Mr Touhig: Can you assure us it will not impact upon operations?
Lieutenant General Figgures: It will not impact upon our ability to conduct operations.

Q121 Mr Touhig: So why did you bid for 314 in the first place?
Lieutenant General Figgures: Again this business of how reliable the vehicle is, how we were going to use those support vehicles, the nature of the recovery task, the nature of the availability, reliability, maintainability and I go back to my point, there is a ratio between recovery vehicles and the vehicles they support. More available equipment, more capable equipment requires less recovery.
Mr Touhig: A bit *dejà vu* for me. I was responsible for a DLO as a councillor and for three years in the capital programmes' bid I bid for forklift trucks which I did not need in order to take them out when I was required to cut the capital bid. No further questions.

Q122 Mr Davidson: May I start by asking the Comptroller and Auditor General whether or not the MoD are getting better at all of this?
Sir John Bourn: Yes, they are getting better. They are paying in particular more attention to the assessment phase of the project than they did in the past. They are getting better and also the greater attention to the idea of through-life costs and management, which the planned coming together of the DPA and the DLO is an expression of, is another example of them getting better. They certainly are getting better and certainly on the compounded performance, if you look at the United States or France, they are certainly not better and in a number of important areas worse than the UK, which is not to say that further improvements cannot be made but they are getting better.

Q123 Mr Davidson: So it is not quite a gold star yet then.
Sir John Bourn: Not quite a gold star yet, but moving through the heavens.

Q124 Mr Davidson: It is helpful just to set it in that sort of context. I have been here doing this for a number of years and it is helpful to get it into context. May I start with appendix four and charts 11 and 12, where it looks as though it is all bad news in terms of the numbers of projects which are over-running, then turning over to 13 and 14 where the picture is mixed? To what extent is it fair to judge you on the basis of 13 and 14 rather than 11 and 12, because 11 and 12 include so many legacy projects?
Sir Peter Spencer: If you look at 11 and 13, you are viewing the cumulative damage which has taken place over many years. If you are looking to see whether or not there is any improvement, if you look

[8] *Note by witness:* The Support Vehicle Main Gate Business Case (SV MGBC) which gained approval in 2001 stated that the vehicles would be fitted for BOWMAN. £33M had been included in the MGBC approval for BOWMAN. Funding for BOWMAN was not included in the Equipment Plan (EP) until EP04 by when a more mature costing of £70M had become available.

on page 11, table four, the in-year improvement on ISD, this shows that of those projects five had a time variation in year, of which I am pretty certain four were all approved before 2003; Panther is the exception. The large majority had no in-year slippage or have come forward, particularly the Javelin system, which came in more than 10% under budget and 13 months earlier than originally planned. That is what we want to get: consistency across the piece. If you then look at paragraph 14, it shows you that, notwithstanding the points made earlier that this can be very misleading if you add up the numbers, but project by project for the costs which are appropriate to be levelled at the IPT leader, there are indications that we are getting better at controlling cost. We have a very long way to go still, but we have been moving in the right direction.

Q125 Mr Davidson: Following on from that, we have moved from competing everything in a cut-throat fashion to a partnership relationship and it is not as clear from this as it could perhaps be which are our most reliable partners in a sense, because we examine it project by project. Have you been looking at the reliability of the partners that you have established relationships with? Can you give us an indication of who over time you think were your most and your least reliable partners?
Sir Peter Spencer: I can assure you that we do measure the performance of our key suppliers. We have a key supplier management system in place which is becoming very sophisticated in terms of collecting the data project by project in terms of performance against what was contracted for and the other measures of the interaction between ourselves and the company: do they keep us informed of emerging bad news, is there the right sort of visibility? We invite them to answer a questionnaire on us as well. We are using that data increasingly to risk adjust the bids for new programmes. If we find that there is a track record of deliberately under-bidding to buy a contract, we would adjust for that in the light of what we have seen in the past.

Q126 Mr Davidson: That is very helpful. Could we have something from you that gives us an indication of the most and least reliable of suppliers? We are only looking here at the 20 biggest or so but you are involved in a wide range of other contracts. As Members we are constantly lobbied by one organisation or another and that would be exceedingly helpful. I understand the legacy issues about Trident and to some extent about Type 45, but may I clarify whether the aircraft carrier is proceeding as it should at this time?
Sir Peter Spencer: Yes, it is. We have a very different arrangement with industry. One of the principles of the McKinsey Report which we had not implemented four years ago was that risk should be properly recognised, understood and managed where it is most appropriate. The arrangements we have central to the alliance construct means that each member of the alliance, including the industrial members, do have a stake in the game and therefore it is very much in their interest to get the due diligence right because, if we were to overspend for any reason, then their levels of profitability would be directly impacted.[9]

Q127 Mr Davidson: As we proceed on a year-by-year basis to monitor the aircraft carrier are you confident, on the basis of what you know at the moment, that we will not be having the sort of Astute and Type 45 horror stories we have had to date?
Sir Peter Spencer: It is highly improbable compared with what you are seeing on Astute, but the one thing I learned in this game is humility and never to forget that something totally unexpected could come and hit you.

Q128 Mr Davidson: But by the time the aircraft carrier hits the water both you and I will probably have left the service of this Committee. I wanted to ask whether or not the same applies to the MARS project.
Sir Peter Spencer: MARS has a very similar approach in terms of the relationships with industry.

Q129 Mr Davidson: Therefore in terms of the sorts of figures which are being quoted for Trident, is it fairer to look at the approach to the aircraft carrier as distinct from the approach taken and the cost escalations with Astute?
Sir Peter Spencer: Yes, I would contend precisely that. By way of supporting evidence, there is a lot of work which is being led by Admiral Mathews as the Director-General Nuclear, who already has all of the nuclear submarine programme, both current and future, and he serves on both the DLO and DPA boards, working with industry to understand what the technical issues are and to do the proper work to ensure that we can control the costs in the future.

Q130 Mr Davidson: Given that this is such an important area, I wonder whether or not it is possible for the MoD to supply the NAO and then ourselves with an indication of whether or not what is being said in terms of costings for Trident are likely to compare with the costings of the aircraft carrier in terms of stickability, as distinct from what happened with some of the legacy projects? That would be very useful in terms of the public debate.
Sir Peter Spencer: So lessons learned applied to the Trident successor programme.[10]

Q131 Mr Davidson: Yes; sorry, I should have made that clearer. On a number of occasions you have made a couple of points about national comparisons and the C&AG did that as well. It would be helpful if you could actually give us something that indicated, say for something like Astute about which we have quite rightly been critical, whether it is actually better value for money than its American equivalent and if that is the case, why we are not selling more similar projects abroad if they are so good and so much value for money.

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9 Ev 22 – 24
10 Ev 24

Sir Peter Spencer: There are two slightly different questions there. The answer to the first part is that we have committed the sin of over-optimism and therefore we achieved a success which was presented as a failure. We set out own homework, we set the pass mark, we sit the exam, we mark it ourselves and we fail and that is dumb and I am bored with it. That is why we are going to get the preparatory stage much better. In terms of the projects you see, which are usually at the very high end of the market, the countries which would want that sort of capability mostly already have their own industry. We are not in the business of selling aircraft carriers or selling nuclear submarines or selling Type 45 destroyers. Any nation which wants a ship of that capability in the main has its own indigenous industry.[10]

Q132 Mr Davidson: Coming back to the first point on international comparisons of costs, it would be helpful if we actually had something run past the NAO which gave us some reassurance about the context. I have been here on a number of occasions going through this exercise and I have never been entirely convinced that this is the best way to add value to the process. Is there a better way in your view by which we can have a dialogue between yourselves and the Committee of Public Accounts involving the NAO which would help us learn lessons which could be more productive?

Sir Peter Spencer: I think there is. The difficulty with the presentation as we have it is that we spend quite a lot of time talking about history of the very big projects which remain in this Report year in and year out. When we then do the sum as to where we have got to, it always comes to a calamitous figure. It is then very difficult to demonstrate in bottom line terms how we are actually improving. We have had a number of thoughts with the NAO about how we might together propose areas for study which will be more relevant to the way in which we are doing business today. If you think about it, when this format was first begun, nobody had thought about anything like a PFI project; it does not really lend itself to the same comparison as a more conventional capital procurement. You can have perfectly legitimate comparisons, but they need to be other than simply on the three parameters which characterise the normal programme.

Q133 Mr Davidson: If I caught what the Chairman was saying correctly, this is your last appearance before the Committee to the best of your knowledge.
Sir Peter Spencer: Unless you call me back before 30 March and I never rule anything out in my life.
Mr Davidson: I was going to suggest that if there were some way it could be arranged, it would be very useful to have a more discursive session with you.
Chairman: Sir Peter is sending us a note and we are now going into private so he can be more discursive.

[10] Ev 25–26

Supplementary memorandum submitted by the Ministry of Defence

Question 49 (Mr Richard Bacon): Breakdown of Figure 3 Categories of measures identified in the Departmental Review—Total £781 million

Category	*Number of Instances*	*Total Cost Reduction £M*	*Percentage of Total Cost Reduction*
Reallocated to enable more appropriate management	18	448	57% Where necessary the associated funding provision has also been re-allocated
Suppliers Corporate costs	3	17	2% Management of suppliers' corporate costs at corporate level within the DPA allows an overview to be maintained of these non-project specific costs.
1.	Astute	6	● Pensions Cost (£5M). Exceptional BAES corporate cost not specifically related to Astute project, taken into consideration when setting rates. Relates to costs of a legacy pension scheme at Barrow (Shipbuilders Industry Pension Scheme) which BAES inherited when it took over VSEL. Under Government Accounting Conventions for non-competitive contracts, companies are able to include in the calculation of their overheads, payments they make in funding employee pension schemes. The Department evaluates the acceptability of such requests on a case by case basis (see MPR 2006 Part 2 paras. 2.5 and 2.6). ● Decontamination and decommissioning of legacy assets/facilities (£1M) used for previous MOD programmes (see MPR 2006 Part 2 para. 2.7)
3.	Nimrod	11	● Removal of BAES Air Systems business rationalisation costs for 2002/3 which previously were included in overheads. The costs and benefits of the rationalisation extend beyond the Nimrod project to other programmes—hence the need to manage these costs centrally. The Nimrod project managers have no control over these extraneous costs.
Reallocated to other parts of Department	15	431	55% An underlying principle for the review was that performance measurement should be against costs that are relevant to the project, as originally approved, and also within the control of the project managers.
4.	Astute	86	● Barrow throughput assumptions (£73M). Additional overhead charges due to work on forthcoming naval programmes at BAES Barrow site, where MOD is the sole customer, now planned for later than previously assumed. The extra overhead costs are attributable to the delayed programmes and should not be counted as an increase in the costs of Astute boats 1-3, as the project managers have no control over these extraneous costs.
5. & 6.			● Safety demonstration (£13M). Sum of two instances. Removal of costs related to a periodic safety review which will deliver benefits to later boats, but not boats 1-3.

Category	*Number of Instances*	*Total Cost Reduction £M*	*Percentage of Total Cost Reduction*
7.	Nimrod	303	• Reclassification of surplus production assets (£176M) as spares to be used during future support. Arises from the reduction in aircraft from 18 to 12. Related Cost Of Capital Charge (COCC) reduction (£35M) due to the transfer of surplus production assets from the DPA to the DLO for use as spares during future support. A COCC (3.5%) is added to the net asset balance for each project held on the DPA's Balance Sheet, which comprises primarily the value of completed Demonstration work and of assets under construction. Accrued costs and delivery of assets reduce the amount of COCC, which ceases to be applied as soon as the equipment under construction is transferred to the ultimate owner. The owner organisation puts the value of the delivered assets onto its balance sheet, which is then subject to COCC within that organisation. The earlier delivery by the DPA occurs, the sooner the assets can be removed from the DPA's balance sheet and the less COCC will be charged to the procurement costs. Further Cost Of Capital Charge (COCC) reductions: • Reduction (£69M) due to redefinition of the start of aircraft deliveries, which triggers removal of the value of Demonstration work from the DPA's Balance Sheet, to the availability of the third Development Aircraft (PA3) for training and operational evaluation, rather than the availability of the first full production aircraft (PA4) • Remainder of COCC reductions (£7M) resulting from the other "Challenge"" team cost changes • Re-categorisation of spares to consumable stock (£7M). The cost of consumable stock is not included in the MPR costings, which are intended to cover only the procurement costs of equipment. • Less costly support (£5M) using RAF personnel rather than a contractor • Adaptable aircraft (£4M). Removal of costs for Adaptable Aircraft modifications which were not part of the original approved MRA4 specification.
13.	Bowman	31	• Removal of requirements not part of the original requirement, to separate new projects (£17M).
14.			• Support related activity (eg upgrade to training facilities) incorrectly included in equipment procurement cost forecast (£14M).

Category	*Number of Instances*	*Total Cost Reduction £M*	*Percentage of Total Cost Reduction*
15.	Trojan & Titan	4	• Maturation of Support strategy led to re-categorisation of cost of spares between repairable and consumable stock. Consumable stock is not included in the equipment procurement costs reported in the MPR.
16.	LFATGWS	2	• Reassessment of residual risk. Revision of LFATGW cost estimate removing unnecessary risk contingency from this nearly completed project.
17.	SRLE	2	• Transfer of work, costs and budget to a separate Insensitive Munitions Warhead (IMW) project. IMW was not part of originally approved requirement for the SRLE project.
18.	SV	3	• Reduction in the number of seating kits being purchased by utilising 500 existing seating kits.
Reassessments of quantities required	3	139	18% Reducing equipment quantities to be procured is a sensible mitigation of cost increases. As the NAO says in the Report, and the PAC has urged previously, we must be willing to do this.
19.	GMLRS	114	• Reduction in rocket quantities from 6204 to 4080. Procurement is via a collaborative programme and a US Production Contract. The unit production cost is significantly affected by changes in order quantities. Prices increased from previous estimates, largely because the actual annual order from the US and UK was only about a third of the anticipated annual offtake (see MPR06 Part 2 paras. 2.11—2.13 for detail). Current Operational Analysis supports the reduced quantity of rockets.
20.	Brimstone	10	• Anticipated receipt from prospective sale of missiles that are now excess to requirements
21.	SV	15	• Reduction in number of recovery vehicles (from 314 to 288) arising from critical examination of the total fleet requirement.
More appropriate accounting treatment	5	32	4% The NAO has investigated the accounting changes to check that the treatments are justified and reasonable. Changes reflect the reality and substance of the situation.
22.	Nimrod	13	• Write off of components. Re-assessment of the engine and component requirement following the reduction in aircraft being procured from 18 to 12, resulted in an accounting provision for the write-off of nugatory expenditure on engines and components that are no longer required and therefore not part of the project costs.
23.	Terrier	3	• Reduction in COCC due to recalculation. Review discovered that future year-end accruals of unpaid costs had not been factored in to the calculation. Re-assessment of estimated future accruals reduced the net assets on the Balance Sheet and hence the amount of COCC.
24.	Astute	3	• Correction of accounting misbookings of expenditure that had occurred between various projects viz: Astute Boats 1 to 3, Astute Boats 4 to 7 and Swiftsure and Trafalgar class. Removed £3M in MPR06 from the Astute Boats 1 to 3 total project cost forecast.

Category	*Number of Instances*	*Total Cost Reduction £M*	*Percentage of Total Cost Reduction*
25.	SRLE	12	• Removal of potential additional overhead costs related to delay in starting a follow on project outside the ambit of the SRLE project and the control of the IPT. Review led to a revised judgement that it was unlikely that additional overheads would be claimed by the SRLE prime contractor, based on developing views of future workflow.
26.	PGB	1	• Removal of unnecessary £/$ exchange rate risk provision from cost estimate. MPR projects normally use Department wide projections of exchange rates for planning and cost estimating, which take account of currency Buy Forward contracts. Inclusion of an exchange rate risk contingency in forward costings is unnecessary second guessing.
Redefinition of some elements of the projects	18	162	21%
Reassessment of requirements	2	6	1% The changes do not materially affect the military capability
27.	A400M	5	• Deletion of ability to carry civil pallets (see MPR06 Part 1 paragraph 1.15)
28.	Trojan & Titan	1	• Non-conversion of all 4 prototype vehicles into driver training vehicles. It was assessed that the conversion fell outside the scope of the original approval and that the training need could be met by utilising the 22 production vehicles owned by the training organisations. No impact on training.
Commercial & contractual management	8	138	18% Major part of these cost reductions are tax related
29.	Nimrod	55	• Effect of zero rated VAT on spares (£33M). Reclassification of the Nimrod MRA4 surplus production assets to spares resulted in no VAT being paid by the Department. • Reduced contractor manpower requirement (£17M). Cost reduction of £22M due to re-deployment of BAES designers, previously being maintained on Nimrod books. Offset by an unrelated cost increase of £5M due to the re-instatement of a risk contingency. • 1% reduction in cost of fee payable to contractor (£5M). Revised costing assumption regarding the profit rate for the production contract, drawn from the view at the time of likely future rates.
32.	NLAW	3	• Reduction in Unit Production Cost as a result of the Swedish Government exercising its option to buy NLAW.

Category	*Number of Instances*	*Total Cost Reduction £M*	*Percentage of Total Cost Reduction*
33.	Astute	74	• Shipbuilders Relief receipt (£58M). In Oct 05, H.M. Revenue & Customs determined BAES's residual claim for Shipbuilders relief which amounted to £58M. This relief was not assumed in MPR05 but was taken into account in MPR06, hence the cost reduction.
34.			• Cost reduction of £13M. The restructured contract in 2003 provided BAES with incentives, paid as an additional fee against Boat 1, for achievements on Astute Boats 2 and 3. As the programme has progressed it has been agreed the incentives should be re-cast. MoD's liability for Boats 2 and 3 will be capped under new incentive arrangements. This change could result in the Contractor still earning additional profit, but on Boats 2 and 3 and via its share of achieved cost reductions against an agreed target cost.
35.			• Cost reduction due to shortening of BAES warranty from 3 years to 1 year (£3M). The original 3 year warranty was agreed when the contract was placed in 1997 and was to be provided within a framework of contractor support. The support strategy has since changed, and now will initially involve both contactor and MOD in-house support solutions. This change provided an opportunity to review warranty requirements, resulting in a reduced warranty period which provides acceptable coverage against likely arisings.
36.	Bowman	6	• Assets delivered earlier than planned resulting in a reduction in COCC.
More cost effective methods of delivery	8	18	2% Re-assessments of planned work and costs, resulting in less costly ways forward
37. 38. 39. & 40.	Astute	7	• Safety cases. Sum of four instances. Savings on safety demonstration work. No adverse effect on safety (see MPR 2006 Part 2 para. 2.3 for details)
41.	Nimrod	11	• Productionisation costing reduction (£5M). Project Team's re-assessment of the risk and cost escalation assumed by the contractor in the latter's projected costs
42.			• Cancellation of spares (£3M) that are no longer needed
43.			• Saving (£2M) to be realised by re-using existing maintenance data
44.			• Revised fatigue test (£1M). Saving to be realised by amendment of the fatigue test strategy from a single one-off activity to a progressive strategy, to take advantage of existing data

Question 56 (Mr Richard Bacon): *How much was the (refinancing) gain*

First, it is important not to forget that the deal was a restructuring. The principal objective was a switch from a space insurance based approach to a physical assurance strategy. Repayment of the existing finance was an unavoidable consequence of the switch, since insurance had been a major source of risk mitigation for the lenders under the original structure. This resulted in a new financing structure. Importantly, the new financing and the restructuring were achieved as part of a single transaction, rather than in separate stages.

In the negotiation stage, it was important for the MOD to know what the outcome would have been if the change to the structure of the PFI deal had been limited to a refinance only. MoD therefore requested their financial advisors at the time to carry out a theoretical refinance only scenario, in which the contractor's existing package would be replaced with one on identical terms to the financing expected on the restructured deal (all other elements of the deal would remain unchanged). The predicted rate of return (Equity IRR) would have been 11.45% as opposed to the rate of X% under the original deal. On this basis, Paradigm could have gained around £50M, dependent on the applicable discount rate. The MOD would not have received any proceeds from gain share, as the threshold for such an occurrence (Y%) would not have been breached. This notional refinancing gain is balanced by the increased risk taken on by the contractor with the removal of the MOD's position as insurer of last resort and the related transfer of risk to the contractor.

Question 126 (Mr Ian Davidson): *Performance of key suppliers*

Since 2004 the Department has undertaken a process known as Key Supplier Management with a number of suppliers. The process provides a single, coherent route for strategic engagement with each key supplier. It promotes performance improvement by the supplier and MOD and it helps inform planning and decision-making in relation to future contract award considerations.

Performance improvement under Key Supplier Management is measured and driven through a cycle of annual performance reviews with each supplier. These comprise perception-based surveys of performance which are undertaken with each MOD Integrated Project Team (IPT) managing significant business with the supplier concerned. (The process is two-way: suppliers' project teams undertake a similar exercise with respect to IPT performance.

The survey of supplier performance examines the following aspects of performance:

— Information Exchange

— Management of People

— Quality of Output

— Responsiveness

— Approach to Project Management

— Reporting

— Commercial Management

— Management of Risk

— Management of Suppliers

Each IPT scores its suppliers in a range of 0-10 for each performance aspect. In order to ensure consistency in scoring, a standard guide (attached at Appendix 1) is used to illustrate the characteristics of performance or behaviour that might justify scores in a given value range. The IPTs' scores are then aggregated to provide an average score for each aspect of performance, thereby highlighting supplier strengths and areas for improvement. The scores for the different aspects are also averaged to generate a single, overall aggregate score for each supplier.

The table at Appendix 2 lists the Key Suppliers that were the subject of the 2005/06 performance review exercise, showing the aggregate score for each and the number of projects and IPTs that contributed to each survey. This shows that some suppliers are involved with many more projects and IPTs than others. Reviews were completed between Sep 05 and Sep 06. The 2006/07 performance review process is under way now and the results will be aggregated by this Autumn.

The performance review process is central to the Key Supplier Management initiative. Although each supplier is aware of its own scores, and its overall ranking relative to other, unidentified, key suppliers, there is a clear understanding that scores will under no circumstances be disclosed publicly or to other suppliers. Such information could be detrimental to share prices, city analyst perceptions and supplier reputations. Without this understanding of confidentiality, it is highly unlikely that industry would be willing to participate in the process, and any public disclosure of the scores or rankings would seriously undermine the trust upon which Key Supplier Management depends.

APPENDIX 1

MOD ON SUPPLIER PERFORMANCE MANAGEMENT MATRIX
(IPTs may wish to use this as a guide to the type of behaviours that you might expect to see in each scoring range)

Criteria	*(0-2)*	*(3-4)*	*(5)*	*(6-7)*	*(8-10)*
Project Management	Non disclosure of issues until they impact the project. Does not seek stakeholder involvement. Confrontational attitude, first recourse is to the contract.	Disclosure of issues but too late to completely mitigate impact. Only considers needs of the user when directed by MOD.	Seeks resolution of problems when they arise. Considers the needs of the customer.	Open, honest and proactive with issues. Considers the needs of the customer and will seek their views.	Anticipates issues before they arrive. Proactive engagement with relevant stakeholders.
Responsiveness	Poor or no response to queries, problems.	Rarely responds within agreed timescales.	Proactive in ensuring good communication.	Proactive in joint development of communication strategy.	Exchange of quality information at all levels.
Reporting	Consistently fails and shows a lack of interest to report or advise on issues.	Realisation of need to take proactive action.	Process defined and agreed with the Customer to meet needs.	Evidence that process is operating and delivering outputs as required.	Embed process working effectively between supplier and customer.
Information Exchange	No information passed unless confronted. Information late and inadequate.	Information often passed late and not adequate for the purpose.	Passes information as required to meet obligations.	Information passed in plenty of time to assess and clarify. No information overload.	Useful information not requested also given, requirements for future information needs constantly reviewed.
Management of Suppliers	Little or no control over suppliers.	Cognisance of suppliers' drivers in relation to their impact on the programme only.	Flow down of requirements to suppliers.	Suppliers driven to appreciate the needs of the customer.	Partnered approach to management of suppliers.
Management of Risk	Risk and impact not considered.	Risks identified, impact considered but not addressed.	Risks identified and impact considered. Mitigation plans prepared.	Mitigation plans in place and implemented if/ as required.	Risks managed and mitigation jointly considered and implemented.
Management of People	No coherent People policy which leads to inappropriate resource being deployed.	Recognition of need to address shortfall.	Coherent people plan in place (which is shared with the Customer).	Right People starting to join the team.	Right people, right skill sets deployed effectively to deliver.

Criteria	*(0-2)*	*(3-4)*	*(5)*	*(6-7)*	*(8-10)*
Quality of Output	Outputs fall short of contractual requirements and fail to meet the users need.	Some outputs fail to meet requirements and user needs.	Outputs sufficient to meet contract and user need.	Outputs often exceed expectations.	Outputs always exceed expectations, customer delight.
Commercial Management	Supplier's first recourse is to the contract when issues arrive.	Some consultation between commercial and project staff when tackling issues.	Commercial aspects considered when project decisions are made (and vice versa).	Issues shared between project and commercial staff.	Commercial staff integrated members of team, flexible approach to meet targets.

Question 130 (Mr Ian Davidson): *Lessons learned from the Astute programme that can be applied to the Trident successor programme*

Industrial Sustainability

The gap between ordering the VANGUARD and ASTUTE Classes led to an erosion of submarine design and build skills, with a consequent adverse impact on programme schedule and cost. Although much has been done to mitigate the problem, its effects have proved long-lived and work is still ongoing to address shortfalls in some key skill areas. The reduced volume of submarine orders has resulted in a downsizing of BAES (Submarine Solutions)'s workforce. In looking at the sustainability of the UK's submarine design and build capability, the RAND study underlined the need to match the design and build cycles against available resources and a 22-month delivery drumbeat has been introduced across the ASTUTE Class to ensure the efficient utilisation of skills—lessons that will be incorporated into a potential Successor deterrent programme.

Construction Processes

The impact of a large gap between the VANGUARD and ASTUTE Classes resulted in a re-learning of many build-related skills, including the sequencing of the construction programme. Experience with the First of Class has highlighted many opportunities for efficiencies, including the increased use of modularisation and the employment of 'vertical outfitting' which are now being employed on Boat 2 and beyond. The ongoing drive to achieve further improvements under the Design for Cost Reduction (DfCR) initiative has brought together key industrial suppliers, design and production staff, enabling much custom and practice to the challenged and the swift identification of design improvements and better working methods. These initiatives are achieving process and design improvements that will be of direct benefit to a potential Successor programme.

CAD

The ASTUTE programme broke with the tradition of using a 1/5th scale model to assist with the visualisation and layout of the submarine, relying instead on the use of a Computer Aided Design system. This shift in technology proved challenging—the timescale to gain familiarity with the use of CAD and the limitations of the system undermined the efficiencies that it was assumed to deliver, resulting in programme delays and cost escalation. Assistance provided from the US DoD and Electric Boat helped to overcome these difficulties and there is now a proven track record of successful employment of CAD for submarine design. Provided that the associated skills are nurtured the use of CAD will provide a direct benefit to a potential Successor programme.

Supply Chain

Recent studies have underlined the fragility of the submarine build-related supply chain, characterised by examples of market exit, very low or very high percentages of submarine related work, and compounded by irregular and infrequent equipment orders. Key suppliers have now been identified and mitigation actions put in place to manage the potential challenge to the construction programme, including the ordering of long lead items ahead of the next whole boat contract. Such proactive management of the supply chain will minimise the threat to a follow-on submarine programme.

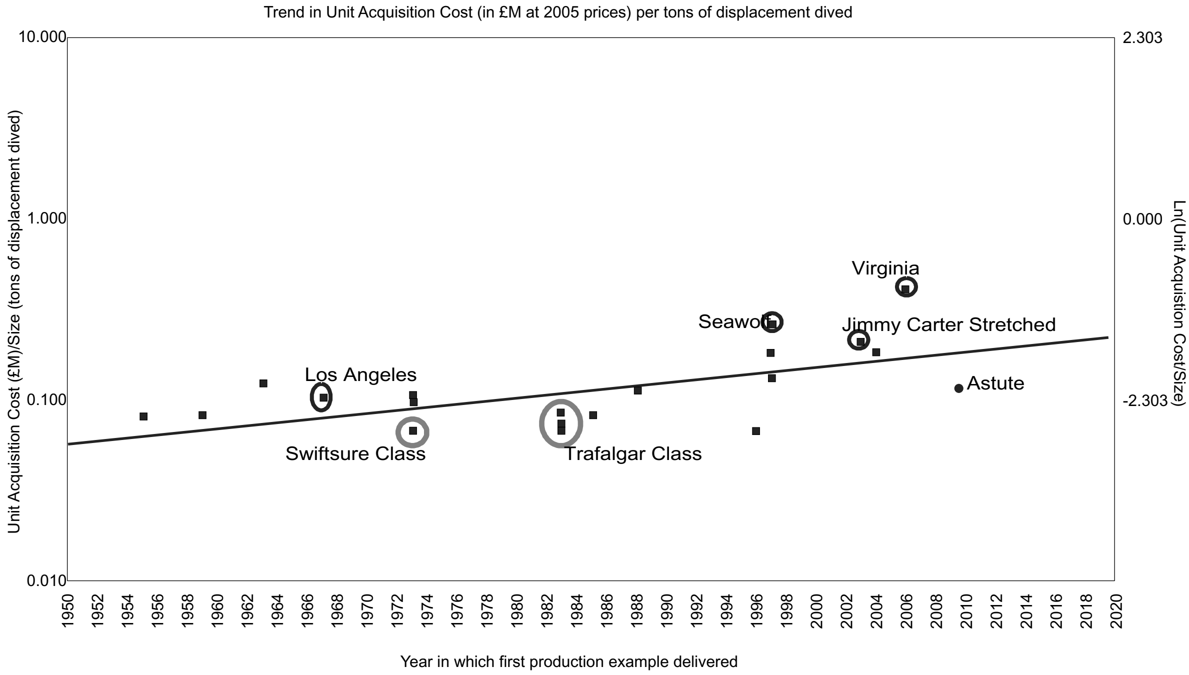
Question 131 (Mr Ian Davidson): *How the UK MOD compare with their international counterparts in obtaining VFM from their suppliers.*

The Committee asked about the cost of ASTUTE in comparison to its American equivalent and about broader international comparators.

In 2005 the Department commissioned HVR Consulting Services Ltd to undertake an independent scrutiny of estimates of costs and time for 22 major programmes—largely based on the Major Projects Report 2004—within the context of outcomes of past projects of a similar kind. The data for comparison was based on outcomes in other nations, including the US, as well as historical UK data. The aim of the work was to indicate where the projected cost and time fell in comparison to the outcome of similar projects on a comparable basis to highlight potential significant deviations worthy of further analysis.

In cost terms the HVR analysis showed that of the 22 projects reviewed nearly 60% (13) were predicted to outturn at or below the level forecast by the model. This would indicate a reasonable level of comparative performance in a historical context. In schedule terms the results showed that all bar one were predicting delivery ahead of that expected for comparable programmes.

The FACET (Family of Advanced Cost Estimating Tools) model used by HVR has been used to produce a recent assessment of the comparable costs for ASTUTE. The graph below summarises this and shows the cost history of nuclear attack submarine build in the US and UK. The trend line is the best fit to all the data and the graph is normalised to cost per ton so removing differential caused by the fact that US boats are generally bigger than those used by the Royal Navy. The main RN classes, Swiftsure and Trafalgar, were significantly below the trend line and using the latest projected prices Astute is also below the trend line. The data used to generate this graph is derived from public domain sources.



As the Committee requested, this assessment was shared with the NAO and they have indicated they are content with it. There are two other recent comparisons of costs which provide a favourable comparison of the UK when compared to the US. However, as the full detail of the underpinning data and assumptions is not available to the NAO they are, quite correctly, not able to endorse the assessment. Nevertheless, as this is available from published sources it was thought helpful to include a summary.

> The RAND report—Why has the cost of Navy Ships Risen?—a macroscopic examination of the trends in US Navy ship costs over the past decades published in 2006 stated that the cost of US nuclear attack submarines was $2.427Bn. This figure was also quoted by the Electric Boat President John Casey during a briefing in June 2006. A generic exchange rate for that period would make the cost of each boat some £1.403Bn. Current projections suggest that in steady state production ASTUTE will outturn below £1Bn per hull.
>
> In 2005 John Dowdy of McKinsey & Company and Megan Schwartz of University College London's Defence Engineering Group published[1] a like-for-like comparison between the US and UK. The comparison set out to compare performance of 20 major projects spanning the last decade with the sample constructed to yield a small number of comparable programmes in each major project category.

[1] World of Defence—Spring 2005

> The analysis of the sample by Dowdy & Schwartz showed that the US has suffered four times greater cost overruns than those experienced in the UK, with an average 29% increase in the US, versus 8% in the UK, as measured by unit costs versus original approval. In schedule performance the average delay for the sample was 46% for the UK and 41% for the US, although the US analysis was based on less data. The US result was also significantly influenced by delays on one programme—the V22. With this removed average schedule overrun reduced to 23%.

In the context of comparable performance for project management since 2003 the DPA has applied the Human Systems Ltd (HSL) Corporate Practice Assessment (CPA) annually, enabling us to assess how good our Project Management Capability is compared to other project management organisations. The CPA measures 2 qualitative aspects of Project Management Capability: Approach (what we say we do, based on such guidance as the Acquisition Management System) and Deployment (what we actually do in practice, ie how closely we follow our own guidance). Our Approach scores consistently highly, year on year, with risk management scoring maximum value but results have shown a significant gap between our Approach and Deployment scores, particularly in the areas of planning and estimating, and risk management. Assessment against the tool also enables the DPA to be benchmarked against other members of HSL's Global Network (some 42 project management organisations, including BAE Systems) who have had a similar assessment carried out. We are also benchmarked against a government subset of the Global network which includes the Australian Defence Material Organisation. Our approach to Project Management scores consistently highly against other members of the network.

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