



National Audit Office

Report

by the Comptroller
and Auditor General

Ministry of Defence

Equipment Plan 2013 to 2023

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Ministry of Defence

Equipment Plan 2013 to 2023

Report by the Comptroller and Auditor General

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Amyas Morse
Comptroller and Auditor General
National Audit Office

7 February 2014

This report reviews the Ministry of Defence's assumptions underpinning the affordability of its Equipment Plan for the period 2013 to 2023

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This report can be found on the
National Audit Office website at
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Summary

Scope of our report

1 The Ministry of Defence (the Department) has published its second annual Statement for the period 1 April 2013 to 31 March 2023¹ on the affordability of its plans to deliver and support the equipment that the Armed Forces require to meet the objectives set out in the National Security Strategy.² The Equipment Plan consists of both procurement and support costs and is prepared on a rolling ten-year basis. For 2013 to 2023 it covers a budget of £164 billion, made up of:

- an equipment procurement budget of £63 billion;
- an equipment support budget of £87 billion;
- a contingency provision of £4.7 billion (a central reserve to deal with risks that occur); and
- an unallocated budget of £8.4 billion (budget that the Department has not yet committed to specific programmes within the Equipment Plan).

2 In January 2013 we published our first review of the assumptions that underpin the Equipment Plan for the period 2012 to 2022.³ This report reviews the assumptions used by the Department to compile the plan for 2013 to 2023 to help Parliament evaluate how confident it can be in the statement. This year we have covered 16 of the largest procurement programmes in the Equipment Plan, eight more than last time. Full details of our audit procedures are set out in Appendix One. In addition, this year we have reviewed the Department's progress in addressing the key risks to the affordability of the Equipment Plan as set out in our previous report (Appendix Two).

3 We intended to also examine the Department's assumptions underpinning the Equipment Support Plan, which makes up just over half of the Equipment Plan budget by value (£87 billion), but while the Department has work under way to provide independent views on its Equipment Support costs, this work has not matured sufficiently to be included in this review. As a result, the Department was not able to provide us with sufficient evidence to support the accuracy of these costs. The Department has committed to providing us with this information in time for the *Equipment Plan 2014 to 2024* engagement.

¹ Available at: www.gov.uk/government/organisations/ministry-of-defence

² HM Government, *A Strong Britain in an Age of Uncertainty: The National Security Strategy*, Cm 7953, October 2010.

³ Comptroller and Auditor General, *Ministry of Defence: Equipment Plan 2012 to 2022*, Session 2012-13, HC 886, National Audit Office, January 2013.

Findings

- 4 Our review of the Equipment Plan 2013 to 2023 found the following:
- The fundamental assumptions underlying the affordability of the Equipment Plan have not changed (paragraph 7).
 - The forecast costs of the projects in our sample have remained stable (paragraph 19). This contrasts with historical cost increases we have reported through successive Major Projects Reports.
 - The estimated amount by which the Equipment Plan is potentially understated has decreased from £12.5 billion to £4.4 billion. This is partly a reflection of the smaller number of projects covered by the Core Equipment Plan compared to the previous Equipment Plan, but also because the Department's level of confidence in the costings has increased (paragraphs 23 to 25).
 - Good practice in costing techniques is inconsistent across project teams, and the Department might not be incorporating risk and uncertainty in its project costs adequately (paragraph 30). The contingency provision of £4.7 billion provides the Department with some protection (paragraph 37). However, if the contingency is inadequate and it becomes necessary for the Department to use the unallocated budget to deliver the core programme, there could be an impact on the Department's ability to deliver the full military equipment that it believes it needs (paragraph 54).⁴
 - The equipment support costs, which make up over half of the Equipment Plan, are not subject to the same level of detailed analysis as the procurement costs. While the support costs are scrutinised by the Department for investment decision purposes, and during the internal quarterly review process, the Department has not yet completed an assurance review of the support costs as it has with the procurement costs. Until it fully understands these costs and the risks associated with them the confidence it can express in the overall plan is limited (paragraphs 35 and 36).
 - The Department underspent against the forecast cost of the Equipment Plan by £1.2 billion in 2012-13 but does not yet fully understand the reasons for this or the potential impact this may have on implementing the Equipment Plan on time and within budget (paragraph 26). The Department told us that it had undertaken analysis of the in-year movement in project costs which showed they can be caused by a wide variety of factors both within and across projects. The Department says that it is this that has made it difficult for it to come to a clear view on the implications for project costs in future years and it needs to do further work to understand this issue.

⁴ Military capability is the enduring ability to achieve a desired operational outcome or effect. Capability is made up of force elements (ships, aircraft, army formations, other military units) combined into packages and tailored for particular operations or missions.

Conclusion

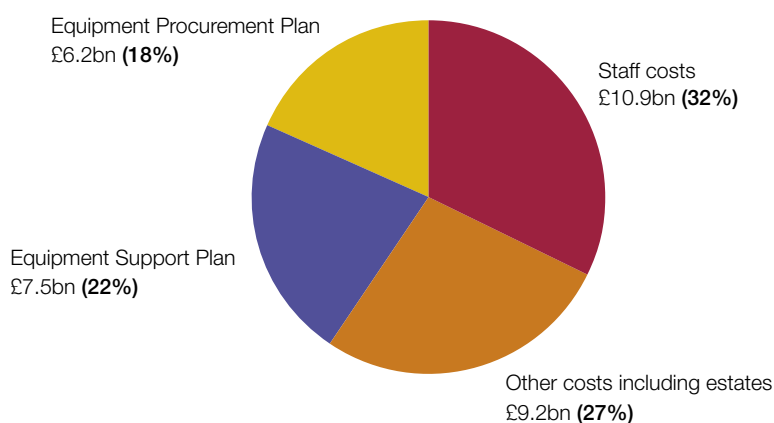
5 The Department's work to address the affordability gap and lay the foundations for future stability, on which we reported last year, appears to have had a positive effect on the Department's ability to maintain an affordable Equipment Plan. However, it is early days and it will take several years before we can judge whether this progress can be sustained. There remain risks to affordability, most significantly around the half of the budget relating to the equipment support costs which the Department has not yet subjected to the same level of detailed scrutiny and assurance as the procurement costs. The Department also does not understand the implications of its £1.2 billion gross underspend on the Equipment Plan in 2012-13 and whether this is a cost that will occur later in the programme. We remain concerned that the Department's treatment of risk and uncertainty needs to be improved before we can have confidence that the contingency provision is sufficient.

Background

6 The Department's ten-year Equipment Plan sets out its forecast expenditure plans to provide and support the equipment the Armed Forces require to meet the objectives set out in the *National Security Strategy*⁵ and the *Strategic Defence and Security Review*⁶ over the ten years from 1 April 2013 to 31 March 2023. The plan covers forecast expenditure within a planned budget of £164 billion.⁷ The Equipment Plan is split between equipment procurement and support expenditure, which in 2013-14 combine to form 40 per cent of the Department's planned spending (**Figure 1**).

Figure 1
Breakdown of Departmental spending, 2013-14

The Equipment Plan comprises 40 per cent of the Department's forecast spending in 2013-14



Source: National Audit Office analysis of Ministry of Defence data

5 HM Government, *A Strong Britain in an Age of Uncertainty: The National Security Strategy*, Cm 7953, October 2010.

6 HM Government, *Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review*, Cm 7948, October 2010.

7 The increase in the Equipment Plan budget to £164 billion for the period 2013 to 2023 from £159 billion for the period 2012 to 2022 is primarily as a result of the inflation caused by adding the year 2022-23 and removing the year 2012-13. It does not represent a decision to increase the real Equipment Plan budget.

7 In order to bring its forecast equipment costs in line with its budget, in 2012 the Department adopted a new approach to its planning process to generate greater stability in its procurement activity.⁸ Part of the new process included creating a 'core programme' of equipment procurement projects; these are projects that the Department definitely intends to proceed with during the decade. The Equipment Plan's £164 billion planned budget (**Figure 2**) includes:

- equipment procurement budget of £63 billion (paragraphs 18 to 34);
- equipment support budget of £87 billion (paragraphs 35 to 36);
- a contingency provision of £4.7 billion (paragraphs 37 to 38); and
- an unallocated budget of £8.4 billion⁹ (paragraphs 53 to 59).

8 The Department is clear that the £8.4 billion unallocated budget is required to procure the equipment and support it believes it needs, in addition to the core programme, to deliver the full intent of Future Force 2020.¹⁰ We have previously reported that the Department maintained a list of projects not included in the core programme from which it would look to approve additional projects at such point it was confident it could afford them. However, since our last report the Department has moved away from the concept of holding a list of projects that compete for funding as a basis for apportioning the unallocated budget. Instead the Department has mapped its high level military objectives to the elements, such as equipment and support, necessary to achieve those objectives. It has used this process to identify where and when gaps in future capability appear in order to determine how best to meet this requirement, and when. Where additional equipment and support are required, the Department intends to fund these through the unallocated budget available from 2017-18 onwards. The Department believes that this is a rational way to link its overall objectives with its decisions to fund projects through the Equipment Plan and intends to run this process on an annual basis. We will look for evidence of successful implementation in future engagements.

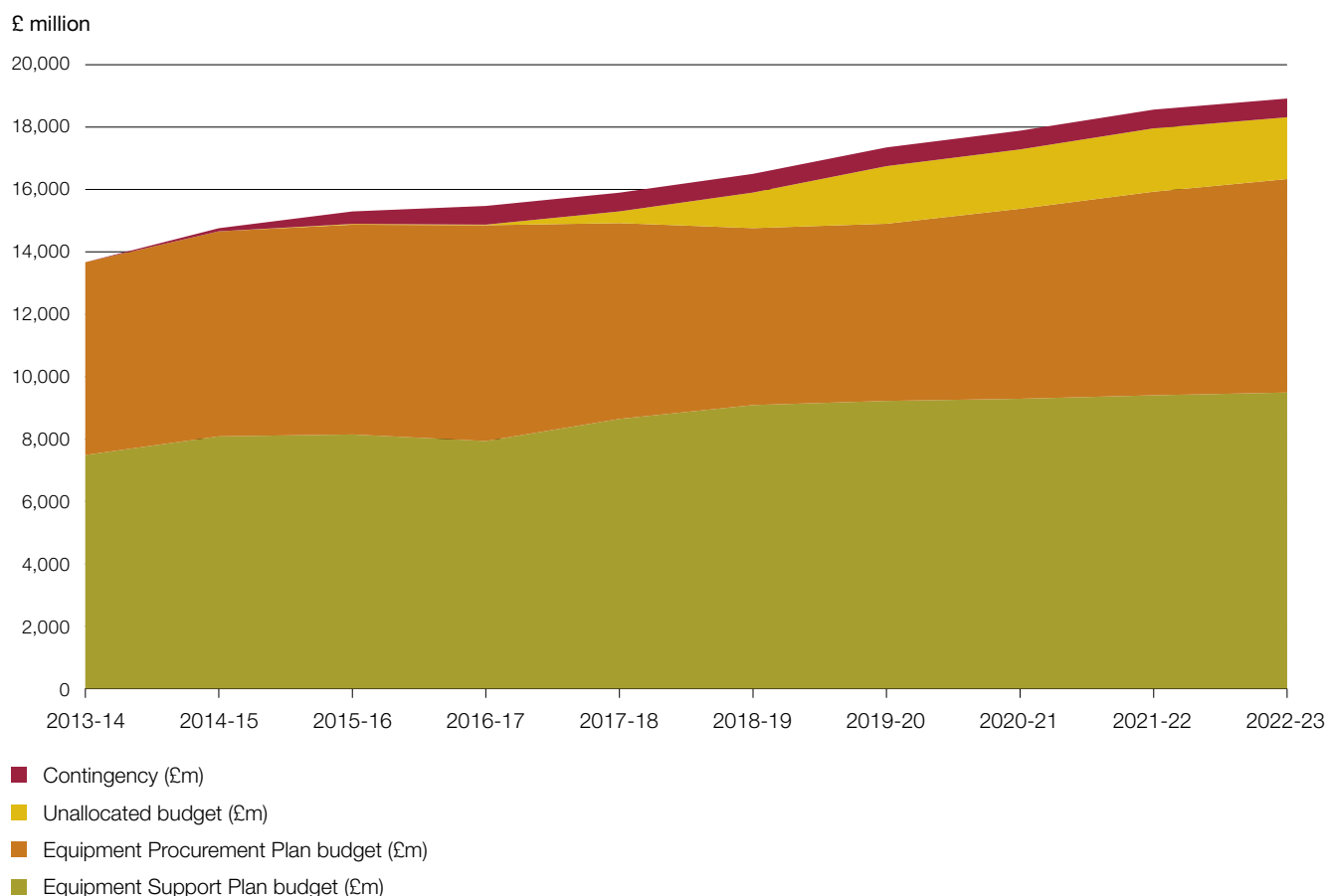
8 Our report on the *Equipment Plan 2012 to 2022* explained the background to the choices that the Department was required to make, including the need to make difficult choices about which future capabilities to fund.

9 In addition, the Department has £919 million in the final year of the planning period which is earmarked for, but not yet allocated to, future long-term equipment requirements.

10 Future Force 2020 is the Government's intended shape of the Armed Forces from 2020.

Figure 2

Breakdown of planned spending on the Equipment Plan, 2013 to 2023



	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Total
Equipment Support Plan budget (£m)	7,488	8,086	8,147	7,937	8,645	9,088	9,222	9,291	9,401	9,491	86,796
Equipment Procurement Plan budget (£m)	6,179	6,572	6,724	6,916	6,277	5,672	5,680	6,090	6,527	6,844	63,482
Unallocated budget (£m)	0	0	25	19	375	1,140	1,846	1,903	2,030	1,980	9,319
Contingency (£m)	0	100	400	600	600	600	600	600	600	600	4,700
Total (£m)	13,668	14,758	15,295	15,472	15,897	16,501	17,348	17,884	18,559	18,914	164,297

Notes

- 1 The budget allocated to the Equipment Plan is not the same as reported in the *Equipment Plan 2012 to 2022* because of the adjustments that the Department has made to its plans and forecasts as part of the 2013 budgeting cycle.
- 2 In addition to the £8.4 billion unallocated budget there is £919 million in the final year of the planning period which the Department has earmarked for, but not yet allocated to, future long-term equipment requirements.
- 3 The values given here represent the budget allocated by the Department.

Source: National Audit Office analysis of Ministry of Defence data

Our approach

9 The Department has committed to publishing a statement to Parliament each year on the cost and affordability of the Equipment Plan and has invited us to review the underlying assumptions. To enable Parliament to understand whether the Department's approach to compiling the Equipment Plan is adequate, this report examines whether:

- the broad assumptions underpinning the costings in the Equipment Plan are reasonable and consistent;
- the assumptions used in the forecast total funding available to the Department and the amount of funding allocated to the Equipment Plan are realistic; and
- the statement contains sufficient and appropriate disclosures so that the user is aware of the key assumptions and risks and the extent to which the assumptions would need to change for the plan to become unaffordable.

10 We consider the delivery of military capability only to the extent of assessing whether the Plan continues to include the equipment that the Department believes it needs to deliver its strategic objectives.

11 This year we have used the same sample for both our review of the Equipment Plan and our *Major Projects Report*,¹¹ in which we scrutinise the Department's information about the forecast cost and schedule of its major projects (see Appendix Three). The *Major Projects Report* looks at the impact of changes to time, cost and performance measures, and so it provides some evidence of the stability of the programme on which the forward assumptions in the Equipment Plan are based. In comparison, our review of the Equipment Plan provides additional detail on the accuracy and risks to the project cost and time forecasts reported within the *Major Projects Report*. Taken together, the two reports enable Parliament to scrutinise the Department's ability to forecast its equipment costs and manage projects within its approved budgets.

12 In undertaking our analysis we looked at the 20 cost lines that make up the largest 16 projects. These are the same projects on which we report in the *Major Projects Report*.

13 We have agreed with the Department that we intend to increase the breadth and depth of our review of the affordability of the Equipment Plan over the next few years. We intend to progress to the point where we can undertake a reasonable assurance engagement, whereby we give an opinion on whether the Department's statement is free from errors that would affect the affordability position of the Equipment Plan as a whole.

14 We have set out the areas in which the Department will need to improve before we reach this point (Appendix Two). While some progress has been made by the Department, further work is needed in several areas before we are in a position to consider undertaking a reasonable assurance engagement.

¹¹ Comptroller and Auditor General, *The Major Projects Report 2013*, Session 2013-14, HC 817-I, National Audit Office, February 2014.

Assumptions underpinning Equipment Plan costs

Background

15 The Equipment Plan comprises a procurement element and a support element, which divide into individual cost lines that represent all or part of a procurement or support project over the ten-year period. We have not looked at the equipment support costs in depth and therefore all commentary on costs within this section relates to the Equipment Procurement Plan unless otherwise stated.

16 The Equipment Procurement Plan is composed of more than 300 individual cost lines relating to specific projects, most of which involve thousands of assumptions based on technical and specialist knowledge. The costs are generated by project teams within the Department who use quantitative risk analysis to model the range of cost outcomes for a project. Because of the number of assumptions involved, as well as the complex and specialist nature of the procurement projects, we did not challenge the individual technical assumptions that contribute to project costs.

17 Instead, we constructed a model that breaks down the Department's assertions within its affordability statement into a set of testable assumptions (**Figure 3** overleaf). The Department's Cost Assurance and Analysis Service was a key evidence source for our high-level review of the assumptions underpinning the forecast costs. The Cost Assurance and Analysis Service produces semi-independent cost forecasts for the Department's major projects, which includes challenge of the technical assumptions. Our full methodology is included at Appendix One.

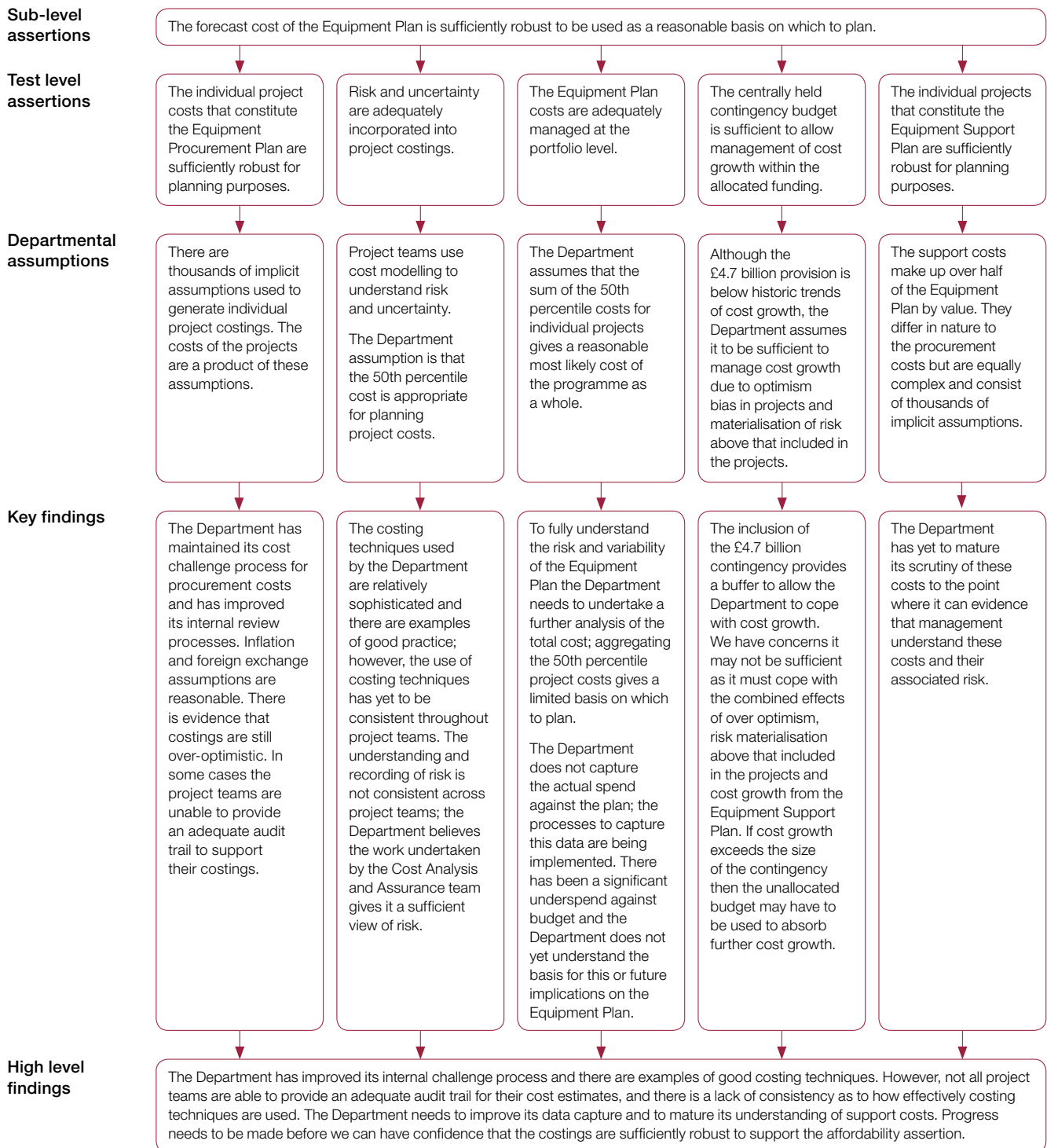
Findings

Are individual project costs sufficiently robust for planning purposes?

18 All projects in the Equipment Plan have a range of potential costs based on the likelihood of different scenarios and risks. For example, the Major Projects Reports have highlighted projects that experienced cost growth because the initial cost estimate was understated. Project teams use relatively sophisticated costing techniques to understand potential variability. The Department requires project cost lines in the Equipment Plan to be forecast at the median of the potential cost range; this is referred to as the '50th percentile cost'. Each project is as likely to cost less than this estimate as it is to cost more, and therefore a reasonable variation is to be expected. The project teams update the ten-year project costs using the forecast 50th percentile cost each year. These techniques rely on judgement, and therefore forecast costs are not absolute, and the costing can be over or understated.

Figure 3

Testable assertions and key findings relating to the Equipment Plan costs



Note

1 The 50th percentile cost is derived from cost modelling, which gives a profile of possible costs for a project. The 50th percentile is the mid-point of the range of costs. Each project is as likely to cost less than this estimate as it is to cost more.

19 Our analysis of 20 procurement cost lines for the period 2013 to 2023, and the findings from the *Major Projects Report 2013*, indicates that estimates have been, in aggregate, stable over the past 12 months, with an overall decrease in the costs of projects.¹² We found that the total cost of our sample had decreased by £500 million when we compared the forecasts in the Equipment Plan 2013 to 2023 at 31 March 2013 and 31 March 2012 (**Figure 4**). However, £425 million of this change is due to an accounting adjustment on one programme (the A400M programme): the actual future payments have not changed for this project.¹³

20 This is consistent with the position reported in the *Major Projects Report 2013* as, after excluding the £754 million cost increase on Carriers as a result of the conclusion of the Department's contract re-negotiations with industry, there has been a net decrease in estimated costs of £46 million across the remaining projects. The increase in the costs of the Carrier programme has no significant effect on our review of the Equipment Plan as the Department budgeted for the Carrier programme at a sufficient level to absorb the likely cost increase.

21 We analysed performance against time as part of the *Major Projects Report 2013* and found that only three of the nine projects for which we could report time performance had reported delays; these totalled 17 months. This suggests that project teams believe that they can manage this slippage without it impacting on the total costs. Although estimated costs have not changed significantly during 2012-13, it is too early to judge if this stability can be sustained.

Figure 4

Changes in forecasts for 20 procurement cost lines, 2012 to 2013

	Project costs as at 31 March 2012 (£bn)	Project costs as at 31 March 2013 (£bn)	Change (£bn)
Cost of projects that have decreased in cost	26.4	25.1	-1.3
Cost of projects that have increased in cost	17.3	18.1	0.79

Notes

- 1 All cost estimates are for the total cost for the ten-year period 2013 to 2023.
- 2 The costs were extracted from the Department's final Equipment Plans as at the end of the planning process for 2011-12 and 2012-13.
- 3 Projects have been grouped based on whether they exhibited a cost increase or decrease to clearly show how they net off.

Source: National Audit Office analysis of Ministry of Defence data

¹² The numbers reported through the *Major Projects Report* and the *Equipment Plan* are not the same because the *Equipment Plan* covers the forecast costs over the next ten years whereas the *Major Projects Report* covers only the approved element of the project: this can cover a period longer or shorter than ten years.

¹³ This was agreed as part of the Comptroller and Auditor General's financial audit of the Department's accounts: *Ministry of Defence: Annual Report and Accounts 2012-13*, HC 38, July 2013.

22 The Department introduced a new internal assurance process in 2012-13 as both procurement and support project costs are now updated on a quarterly basis, rather than on an annual basis as was the case until 2011-12. Each quarter the updated project costs are subjected to an internal review which provides a level of challenge and seeks to identify potential risks to cost, time and schedule. For the procurement costs only, these reviews are supported by work undertaken by the Department's Cost Assurance and Analysis Service, who provide their own view on the project costs and schedule. The quarterly process is new, and its effectiveness to control the Equipment Plan schedule and costs will become more apparent through further reviews.

23 In October 2012, following its second review of procurement costings at project level, the Cost Analysis and Assurance Service reported a potential under-costing of £4.4 billion for the total Equipment Procurement Plan for the period 2013 to 2023. This figure is based on what the Cost Analysis and Assurance Service assesses to be the 'most realistic' estimate of costs: this is the Cost Analysis and Assurance Service's view of the most likely out turn cost of the project, taking into account historical precedent and professional judgement.

24 This is significantly less than the £12.5 billion potential deficit that the Cost Analysis and Assurance Service reported in its previous review in August 2011. This difference is due to:

- a £1 billion increase due to the change in the ten-year period covered by the Equipment Plan, from the 2012 to 2022 to the 2013 to 2023 planning period;¹⁴
- a £4.1 billion decrease due to the removal of projects from the Equipment Plan when the core programme was created for 2012 to 2022;¹⁵ and
- a £5 billion reduction in the gap between the Cost Assurance and Analysis Service's view of the realistic costs and the project teams' view of the project costs of the core programme. While some project teams' estimates of costs have been increased to better reflect risk, in other instances the Cost Assurance and Analysis Service's estimates of costs have been reduced to reflect greater detail of information and understanding of project certainty.

25 Although the cost estimates have converged, there remains a significant risk that the Equipment Plan has been under-costed, suggesting over-optimism at project level. Any cost increases resulting from this may have to be absorbed within the £4.7 billion contingency provision. The Cost Assurance and Analysis Service attributes the decrease in the difference between their views and the project teams' to a much greater understanding on both sides of the key underpinning project assumptions, project complexities, contractual arrangements and risks.

¹⁴ On a like-for-like basis on the programme prior to the creation of the core programme.

¹⁵ The Cost Analysis and Assurance Service's work which reported the £12.5 billion deficit pre-dated the creation of the core equipment plan, and therefore reflects the analysis of some projects which were subsequently removed from the Equipment Plan as non-core projects.

Are risk and uncertainty adequately incorporated into forecast costs?

26 During 2012-13, the Department underspent on its planned spending on the core programme by £1.2 billion (**Figure 5**). The Department does not have a clear view on why the underspend occurred, but it believes that it was the result of a combination of factors, including: better than expected outcomes from contract negotiations; budget being allocated for risks that did not materialise; and the impact of programme slippage. However, if the underspend continues, there is a risk of slippage against programme implementation and costs in future years.

27 We found that the total actual spend for our sample of 20 procurement cost lines was £3.3 billion in 2012-13, compared with a planned spend of £3.4 billion; the net underspend was £128 million (4 per cent). Twelve cost lines had an underspend (£357 million) and eight had an overspend (£229 million). The primary reasons for the underspend were programme delays, slow industry activity and mitigation of risk.

28 At the time of our review, the Department had not yet put in place the processes to capture the data we need to be able to compare actual Equipment Plan costs against forecast costs on a project-by-project basis.¹⁶ In response to a Public Accounts Committee recommendation in January 2013, the Department is addressing this issue, and has told us that it will have these processes in place to inform its 2014 to 2024 affordability statement. As this engagement continues into future years, these data will be key evidence of how well the Department forecasts its procurement costs, and the Department believes these data will allow them to understand the causes of any underspend that may occur in future years.

Figure 5
Underspend on the core programme, 2012-13

	£ million
Equipment Plan budget for 2012-13	13,247
Over-programming approved at the beginning of 2012-13 as part of finalising the plan	265
Additional spend approved during 2012-13 in light of the emerging underspend	641
Total approved spend for 2012-13	14,153
Actual spend in 2012-13	13,003
Underspend against planned 2012-13 spend on core programme	1,150

Note

1 The Department deliberately over-programmes to try to reduce the impact of underspending.

Source: National Audit Office analysis of Ministry of Defence data

¹⁶ In the case of our sample of projects, we obtained information on outturn spend individually from project teams.

29 Project costs are sensitive to changing inflation and foreign exchange rates, which are impossible to predict with certainty but are a risk to affordability. For example, as part of our *Major Projects Report 2013* analysis, we found that a change in the Department's inflation assumptions on two projects has accounted for over £100 million of cost increases during the year. We therefore reviewed the assumptions underlying the estimates used within the Equipment Plan to see if they were reasonable. The inflation assumptions we reviewed were based on historical analysis of similar projects, industry-specific indices, and, where relevant, the agreed variation of price clauses in project contracts. In all cases we found that the way the Department treats inflation is reasonable given its inherent uncertainty. Foreign exchange is also treated reasonably, with rates based on prevailing rates at the time of planning and hedging used to smooth short-term volatility.

30 Our analysis of the 20 procurement cost lines found that good practice in cost modelling and risk is inconsistent across project teams:

- In 11 cases, teams were unable to produce the possible range of costs for their projects, either due to a lack of expertise within the team or because the costing techniques were not kept up to date.
- In ten cases, teams could not adequately link the risks they had identified to the forecast costs of their projects.
- Costs that lie above the 50th percentile within a cost model are not built into projects' budget lines. It is important for the Department to be aware of these risks, their likelihood and their potential cost when making decisions about the necessary contingency. We obtained reliable values for these 'risks outside costing' in only 13 cases, totalling £2.5 billion (8 per cent of their forecast costs). As not all the project teams could provide a robust figure for the total risk outside costing the Department cannot be certain about the level of risk accounted for within the Equipment Plan as a whole. This is mitigated to some extent by the costing work undertaken by the Cost Analysis and Assurance Service, who do review and take into account project risk and reflect this in their most realistic cost estimates.
- Risks are also excluded from costs if a project team cannot directly control that risk (risks excluded from cost modelling). For our sample, we attempted to find out the total value of these risks and to review why they had been excluded, but only around a quarter of project teams could provide a value supported by a list of risks.

31 It is reasonable to exclude certain risks from the project teams' forecast costs and budgets. It is also reasonable that, should these risks occur, they might be funded through the £4.7 billion contingency provision. However, our sample shows that project teams could not always provide an auditable link between identified risks and project cost forecasts, or a comprehensive view of the risks excluded from cost modelling, their likelihood of occurring, or the impact if they were to occur. The Department believes that the Cost Analysis and Assurance Service's work does provide management with a view on the potential risk to the overall project costs, against which it feels that the contingency can be assessed. However, without consistent processes within project teams there remains a risk the Department does not have sufficient information to accurately assess the potential risks to the programme costs.

Are costs and risks adequately managed at portfolio level?

32 The Department produces ranges of costs for individual projects but the total Equipment Plan is expressed as a single figure, obtained by adding the project 50th percentile values. While this gives the Department an indicative total cost on which to plan, it does not show the range of possible costs and their associated probabilities. To accurately determine this range for the Equipment Plan overall, the Department needs to undertake further analysis. Producing this range of costs would be challenging, but with this information the Department would be able to better understand the potential variability of the Equipment Plan cost, and more effectively assess the adequacy of the contingency provision.

33 Some of the project cost lines assume that efficiency savings will be achieved over the ten-year planning period. The largest assumed efficiency saving in the *Equipment Plan 2013 to 2023* relates to the Submarine Enterprise Performance Programme and reduces the Equipment Plan spend by £926 million over the ten-year period; this affects the submarine programmes Astute and Successor in our sample. The planned reduction represents a commitment by the Department's industrial partners to work together to reduce both procurement and support costs for the submarines and nuclear deterrent programme, while improving performance. However, there are risks to the delivery of the benefits, and achieving the level of planned cost reduction is a significant challenge. If these benefits are not achieved, this could impact upon the affordability of the Equipment Plan.

34 Financial benefits of £1.2 billion are also planned through the Complex Weapons procurement approach, which we reviewed in detail as part of the *Major Projects Report 2013*. The current assumptions are reasonable, and risk in the complex weapons sector has been scrutinised by the Cost Analysis and Assurance Service. However, the efficiencies of the pipeline approach are based on interdependencies between projects; should the approach fail, there may be a significant cost increase. Taken together with the Submarine Enterprise Performance Programme, there are significant potential risks to the affordability of the Equipment Plan if the assumed cost efficiencies are not met. We will monitor progress against these targets through future engagements.

Are equipment support costs sufficiently understood?

35 We excluded the equipment support costs from the *Equipment Plan 2012 to 2022* engagement as the Department does not yet fully understand these costs. The Department assured the Committee of Public Accounts that it would be able to provide evidence to support the affordability of the support costs for the *Equipment Plan 2013 to 2023* engagement. However, as at 31 March 2013, the Cost Analysis and Assurance Service was unable to provide any evidence of their review of support costs. The Department has told us that work has been ongoing in 2013-14 to provide assurance over the support costs, in a manner similar to the work conducted for the procurement costs, but the results of this exercise will not be available to us until we undertake the *Equipment Plan 2014 to 2024* engagement in 2013-14. Until the Department has completed its own review of the support costs and can provide a robust audit trail to support its assessment of affordability, it cannot be confident that the costs are accurate or that historical issues have been resolved.

36 As part of our review this year, we have undertaken sufficient work to further our understanding of the support costs and to provide a better foundation for planning our *Equipment Plan 2014 to 2024* engagement. We have found that the equipment support costs consist of a complex and highly variable set of cost lines that the Department understands less well than it does the procurement costs, and that are subject to risk and uncertainty. Our concern about the need to have adequate contingency to allow for risks occurring and costs increasing applies as much to the support costs as it does to the procurement costs. However, the support costs have remained stable since our last review of the Equipment Plan, with an overall decrease of only £81 million.

Is the contingency sufficient to manage cost growth within allocated funding?

37 The contingency of £4.7 billion provides a degree of protection to affordability as it provides a buffer in case costs increase due to: inherent volatility, for example because of potential under-costing of projects; the risk associated with not achieving planned benefits; risks materialising that are held outside the budget; and when a project experiences a higher rate of inflation than planned for. It is also required to absorb the potential cost growth and risk from the support cost element of the Equipment Plan; however, the Department does not yet fully understand the extent of this.

38 Without robust management information on the volatility of the total Equipment Plan cost, or assurance about the support costs, there is insufficient data for the Department to evidence whether or not the contingency provision is likely to be sufficient, based on the underlying assumptions. We will not be able to conclude on this until the Department has adequate data to support the contingency value, and there is historical data against which the size of the contingency can be assessed.

Conclusion

39 The Department has improved how it challenges and scrutinises procurement project costs, and is making efforts to ensure that the cost lines are forecast at a reasonable level. Project costs are now reviewed and updated at least three times a year through a formal review process, as opposed to annually as was the case with the Planning Round process that operated until 2011-12. However, it will need to maintain the cost stability reported in this review and in the *Major Projects Report 2013* to demonstrate that the historical issues of under-costing and systemic over-optimism and slippage have been addressed.

40 The contingency provision and unallocated budget provide greater protection to the core of prioritised projects. However, good practice in costing techniques is inconsistent across project teams and we remain concerned that the Department may be inadequately incorporating risk and uncertainty in its project costs. The Department needs to apply a more sophisticated analysis to the total cost of the Equipment Plan so as to understand the overall variability of the costs, and use this understanding to inform its judgement on the sufficiency of the contingency provision.

41 The Department has yet to fully understand equipment support costs. Although it has begun to address this, evidence will not be available to us until our *Equipment Plan 2014 to 2024* engagement. We therefore cannot reach any conclusion about the extent to which the equipment support costs are underpinned by reasonable and consistent assumptions.

Assumptions underpinning Equipment Plan funding

Background

42 The Department funds Equipment Plan expenditure with the budget allocated by HM Treasury through the Spending Review process. Funding for the Equipment Plan is not protected by HM Treasury and the Department has to internally allocate its budget for equipment costs, ensuring that sufficient budget is also available to meet non-equipment costs.

43 The Department's budget can be broken down into six core elements (**Figure 6**), which include both budgets for funding the Equipment Plan (procurement and support) as well as budgets for other elements, such as the cost of service personnel. To test the Department's assertions within its assessment of the funding available for the Equipment Plan, we constructed a model that breaks down those assertions into a set of testable assumptions (**Figure 7** on page 22).

Findings

Are the ten-year plans based on a realistic funding level?

44 When the Equipment Plan 2013 to 2023 was prepared, the Department was planning its overall funding for the period 2013 to 2023 on the basis of the following assumptions:

- Until 2014-15, funding for the whole Department was based on the 2010 Spending Review agreement,¹⁷ as modified by HM Treasury's Autumn Statement 2012.¹⁸
- Funding from 2015-16 to 2020-21 was based on receiving an annual increase at an inflation rate of 2.7 per cent, with a further 1 per cent annual increase for the Equipment Plan element up to 2023. A profile of Equipment Plan spending set on this basis was agreed by the Chief Secretary to the Treasury in 2011 for the period to 2021, to provide an appropriate planning assumption, unless a significant adverse fiscal shock requires HM Treasury to reprioritise public expenditure. In setting its plans the Department has chosen to allocate additional funds from within its overall budget to the Equipment Plan such that planned spending is above the profile agreed by the Chief Secretary to the Treasury. HM Treasury has given no commitment about the basis on which it intends to fund the Equipment Plan after 2020-21, but the Department has assumed that funding will continue on the same basis as previously.

¹⁷ HM Treasury, *Spending Review 2010*, Cm 7942, October 2010.

¹⁸ HM Treasury, *Autumn Statement 2012*, Cm 8480, December 2012.

Figure 6

The different elements of the Department's budget

Defence unallocated provision

An element of the overall departmental budget that the Department does not allocate but holds to manage unforeseen events. In 2013-14 this budget was £200 million.

Contingency provision

An element of the Equipment Plan budget which the Department is holding in reserve to deal with the materialisation of risk for which budget is not allocated in the core programme, and for unforeseen events. There is no contingency allocated for 2013-14 but £4.7 billion is allocated across the remainder of the ten years.

Non-Equipment Plan budget

The element of the Department's budget not allocated to equipment procurement and support. The most significant elements are manpower costs and estates. In 2013-14 this budget was £20 billion.

Unallocated budget

An element of the budget which the Department has not yet allocated to projects but intends to spend on equipment projects outside the core programme once it is confident that it can afford them. The Department intends to spend the £8.4 billion unallocated budget between 2017-18 and 2022-23.

Equipment Procurement Plan

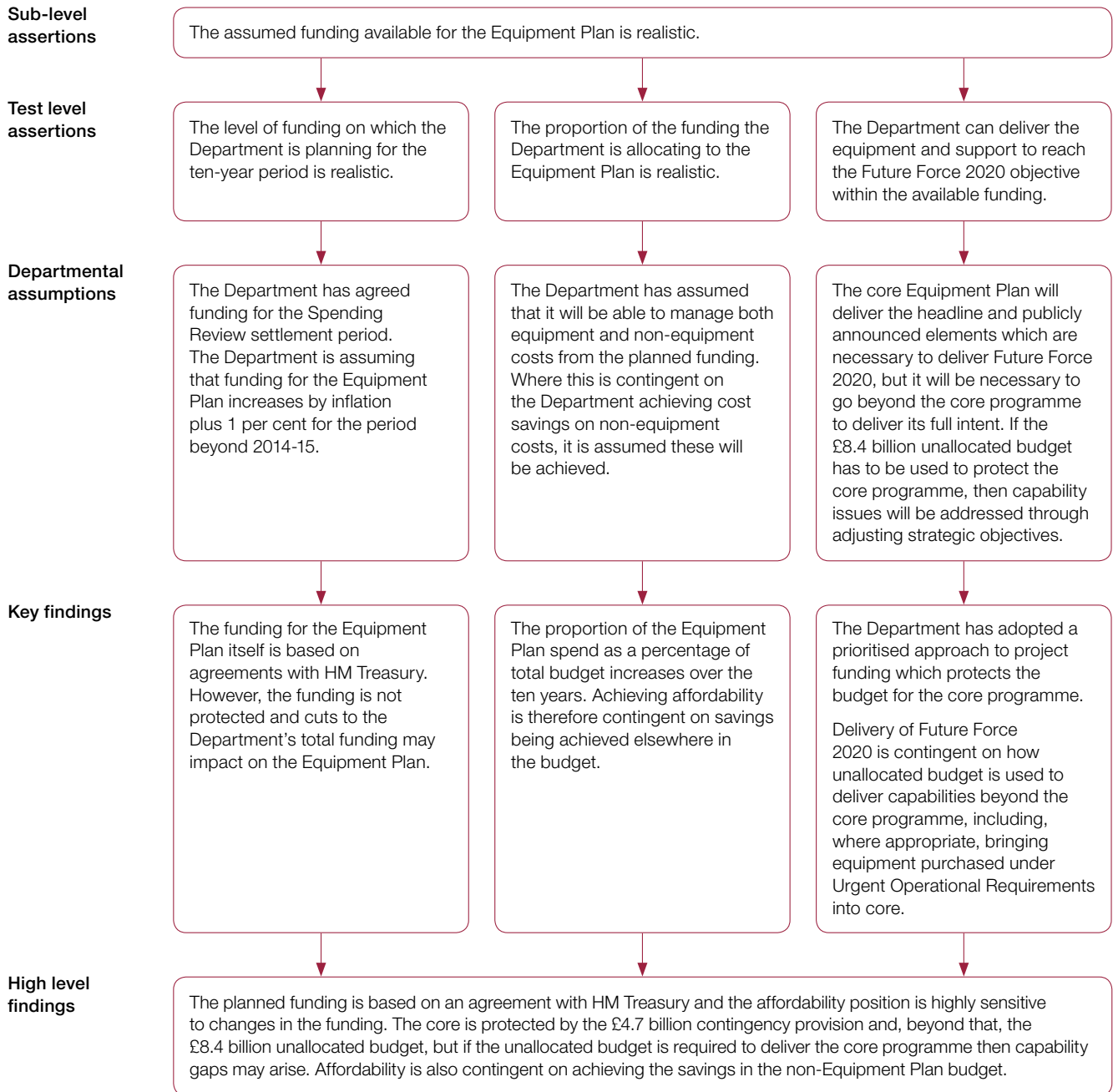
The forecast cost of procuring equipment within the core programme. In 2013-14 this budget was £6.2 billion. The budget matches the cost of the equipment procurement projects within the core programme, which are costed at the 50th percentile.

Equipment Support Plan

The forecast cost of supporting new and in-service equipment. In 2013-14 this budget was £7.5 billion.

Source: National Audit Office analysis of Ministry of Defence data

Figure 7
Testable assertions and key findings relating to Equipment Plan funding



Source: National Audit Office

45 Since the Equipment Plan 2013 to 2023 was finalised, the Treasury has announced the conclusions of its Spending Review for the years 2014-15 and 2015-16.¹⁹ This does not impact on the Equipment Plan 2013 to 2023 but will have an impact on the plan for 2014 to 2024 onwards and the Department will address these changes in the Statement on its 2014 to 2024 Equipment Plan. As a result of the Spending Round, the Department's overall budget for these two years is £2.9 billion less than the figure forecast in January 2012. Of the total reduction, £2.6 billion falls in 2015-16 of which the following impacts on the Equipment Plan, but should not impact on delivery of outputs:

- £140 million from a reduction in the inflation rate HM Treasury uses to set funding levels (from 2.7 to 1.78 per cent).
- £200 million from transfers of responsibility and budgets to other parts of government.
- £350 million from real efficiency savings to be found within the equipment support budget.
- £200 million from reprofiling equipment procurement budget to later years.

46 For the non-equipment budget, the balance of £1.7 billion relates to delivery of £750 million real efficiency savings, £160 million from the change to the HM Treasury inflation rate, and £800 million from re-baselining and machinery of government transfers (such as changes in proposed pay settlements and tax treatments) as part of the 2013 Spending Round.

Is a realistic proportion of funding allocated to the Equipment Plan?

47 The funding agreed with HM Treasury for the Equipment Plan is not protected and the Department is free to move funding between the Equipment Plan and other elements of its budget as it chooses, within the confines of the parliamentary budget allocation process. The proportion of departmental funding allocated to the Equipment Plan depends on the Department's forecast of its overall funding.

48 As with all government departments, the Department's funding can change. The Department's funding has been reduced twice since the 2010 Spending Review and, like other departments, it cannot confidently predict its future funding situation. In 2015 the government is due to publish its Strategic Defence and Security Review, and this could identify changes in what the government expects the Department to achieve. It is possible that the basis for the Equipment Plan's funding may also change.

¹⁹ HM Treasury, *Spending Round 2013*, Cm 8639, June 2013.

49 If the cost of the Equipment Plan remains stable, small changes in departmental funding will have a significant impact on whether funds are available for departmental activities not included in the Equipment Plan and on the overall proportion of the Department's budget committed to procuring and supporting equipment. For example, **Figure 8** shows that there is a potential difference of £15 billion in the Department's budget over the life of the Equipment Plan, depending on whether the Treasury takes the funding position before or after the Spending Review 2013 agreement as the baseline on which to plan future funding. If the underlying assumptions were to change, the Department is clear that it would need to review its policy baseline and adjust the Equipment Plan accordingly.

50 The increasing proportion of departmental funding committed to the Equipment Plan is not protected and depends on the Department achieving other planned savings, notably from reducing manpower and rationalising its estates. The Department believes that it is on track to make these savings: during the 2013 budgeting cycle it reviewed its progress against its savings targets and 80 per cent exhibited no significant risk to achievement. If insufficient progress is made on departmental savings targets, the Department has an unallocated provision (see Figure 6) within its overall budget of about £200 million per year over the ten-year period, which can be used to minimise the risk to the Equipment Plan budget.

51 During 2012-13, the Department underspent against its forecast spend on the Equipment Plan by £1.2 billion. The Department has taken two actions to minimise the impact of underspending in future years:

- It has reached an agreement with HM Treasury whereby it can carry over unspent budget of £1.59 billion from across the whole Department from 2012-13 into the next two years.
- It has 'over-programmed' by £1.2 billion over the first three years of the Equipment Plan 2013 to 2023 by allocating project team budgets that add up to more than the total Equipment Plan budget. As a result, the cost of the Equipment Plan is greater than the budget in each year from 2013-14 to 2015-16.

52 'Over-programming' is a pragmatic short-term approach to encouraging project teams to maximise progress on projects being delivered by industry within the confines of an annual budgeting process.²⁰ However, it can potentially have a negative effect on behaviour if it is used as a long-term solution. If the budgeting process becomes less transparent and project teams do not believe in the budgets that have been allocated to them, the Department could put at risk the improved financial management it is seeking to encourage. The Department does not fully understand the reasons for underspends and there remains a risk that additional costs could occur in future years or that projects are not completed on time.

²⁰ The Department over-programmes because it knows that industry is unlikely to deliver to the agreed schedule on all projects. The Department intends that over-programming will enable those projects that have the capacity, to deliver to a faster schedule and that overall the project costs will average out to the allocated budget.

Figure 8
Equipment Plan funding as a percentage of the total budget

This illustrates the impact of changes in the underlying assumptions on the Equipment Plan budget as a proportion of the Department's overall budget

Position	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Total	Comments
Post-2012 Autumn Statement departmental funding forecast (£bn)	33,856	33,010	35,167	35,473	36,762	38,000	39,276	40,479	41,839	42,969	376,831	Assumed funding position at the time of publication of Affordability Statement on the 2012 to 2022 Equipment Plan and the finalisation of the 2013 budgeting cycle
Equipment Plan 2013 to 2023 forecast costs as a proportion of the departmental budget	40%	44%	43%	44%	43%	43%	44%	44%	44%	44%	44%	
Post-2013 Spending Round departmental funding forecast (£bn) [Scenario 1]	33,856	32,700	32,600	35,473	36,762	38,000	39,276	40,479	41,839	42,969	373,954	The Department's budget is reduced as per the 2013 Spending Round but continues to increase thereafter from the pre-Spending Round baseline
Equipment Plan 2013 to 2023 forecast costs as a proportion of the departmental budget	40%	45%	47%	44%	43%	43%	44%	44%	44%	44%	44%	
Post-2013 Spending Round departmental funding forecast (£bn) [Scenario 2]	33,856	32,700	32,600	33,629	34,690	35,787	36,917	38,086	39,288	40,528	358,080	The Department's budget is reduced as per the 2013 Spending Round but continues to increase thereafter from the post-Spending Round baseline
Equipment Plan 2013 to 2023 forecast costs as a proportion of the departmental budget	40%	45%	47%	46%	46%	46%	47%	47%	47%	47%	46%	

Notes

- 1 In each of the funding forecasts, the forecast budget for the Equipment Plan remains the same but the total departmental budget varies.
- 2 The figures shaded in blue have been set by HM Treasury; the figures shaded in grey are extrapolations of likely funding scenarios, but the Department's actual funding has yet to be set by HM Treasury.

Source: National Audit Office

Are strategic objectives achievable with the available funding?

53 The Department recognises that Future Force 2020 cannot be realised solely through improving equipment procurement, and that achieving its objectives within budget will require it to make other changes. These include making efficiency savings across the Department; using unallocated expenditure appropriately; making a success of its new operating model; and making changes to the way in which the Armed Forces conduct training and operations.

54 During the ten years covered by the Equipment Plan 2013 to 2023, the Department has £8.4 billion of unallocated procurement expenditure, mostly available towards the end of the planning period. The Department intends to use this money to fund additional projects according to their military priority, as soon as it is sure that they are affordable, so that it can reach the full equipment capability required for Future Force 2020. However, should the funding situation change or the core programme experience a cost increase that uses up the contingency and requires some or all of the unallocated budget, this could have implications for achieving additional capability.

55 After analysing the potential military capability gaps resulting from creation of the core programme, senior military personnel²¹ noted that the level of capability being realised through the Equipment Plan was better than they had thought a year before. They concluded that the Department could implement Future Force 2020 but that this was based on the assumption that efficiencies could be achieved in implementing the plan and that funding for the plan would not be reduced through the Spending Review.

56 The Department intends that by committing to the projects in the core programme this gives the project teams and industry greater certainty on which to plan, while the unallocated budget remains available to fund the prioritised capabilities held outside the core programme. At the end of each planning round senior military personnel will continue to review the core programme and the level of unallocated budget available for additional capabilities, to determine whether, in combination, they are sufficient to deliver the military capability that is required by the Front Line Commands.

²¹ Memorandum from the Chief of the Defence Staff to the Prime Minister, 28 March 2013.

57 As part of a wider Transformation Programme,²² individual Front Line Commands are being given more budget responsibility. During the 2013 to 2023 annual budgeting cycle, the Department issued planning allocations of the £8.4 billion additional budget to the Front Line Commands. However, it does not intend to start committing that budget, which is not available until 2017-18, until it is necessary to do so and it will only do so on the basis that its plans remain affordable. The Department believes that the individual commands are in the best position to judge how to use the unallocated funding most effectively, to close gaps in equipment capability necessary to deliver Future Force 2020. Land Command is the most likely to experience capability gaps unless it can purchase equipment beyond the core programme,²³ and consequently over 50 per cent of the unallocated budget has been provisionally apportioned to Land Command (**Figure 9**).

58 The *Equipment Plan 2012 to 2022* did not include funding or costs for the return and ongoing support of equipment purchased under Urgent Operational Requirements from Afghanistan. Urgent Operational Requirements cover purchases outside the core defence budget to support a specific operation. It is expected that such equipment will be disposed of once it is no longer needed for the operation it supports. In the case of equipment purchased under Urgent Operational Requirements for Iraq and Afghanistan, the Treasury has acknowledged that much of the equipment thought originally to be specific to these scenarios is now relevant to a wider range of situations. As a result, the Treasury has agreed that the Department does not need to repay the capital costs of procurement if this equipment is still required. However, the Treasury has specified that the Department must be in a position to fund the support of the equipment.

Figure 9
Apportioning the unallocated budget between the commands

Command	Amount of unallocated budget apportioned to the commands (£bn)
Land	4.7
Joint forces	1.5
Air	1.1
Maritime	1.1
Total	8.4

Source: National Audit Office analysis of Ministry of Defence data

22 The National Audit Office, *Briefing for the Committee of Public Accounts: Reforming the Ministry of Defence*, February 2012.

23 Comptroller and Auditor General, *Ministry of Defence: Equipment Plan 2012 to 2022*, Session 2012-13, HC 886, paragraph 48, National Audit Office, January 2013.

59 The Department estimates that the cost of bringing equipment purchased through Urgent Operational Requirements into the core programme will be up to £2.9 billion if it were to retain it all. The commands will decide which equipment they want to retain in service and will only do so where they believe that the equipment will be needed in the future. The commands were allocated an additional £1.4 billion over 2013-14 to 2016-17, of which £370 million was specifically allocated to bringing equipment purchased under Urgent Operational Requirements into the core programme. Beyond this funding the commands will need to find any funding necessary to support this equipment through efficiency measures or by investing the unallocated funding available to them.

Conclusion

60 The Department's funding for the Equipment Plan for the majority of the decade is based on an agreement with HM Treasury. However, the Equipment Plan budget is not ring-fenced and the Department's overall funding position, like all other departments, is vulnerable to cuts, as demonstrated through the Spending Review 2013. Budget reductions could reduce the available funding for the Equipment Plan in future years, if the Department fails to meet its cost saving targets for the non-Equipment Plan budget. The £8.4 billion unallocated budget could be spent on the core programme if it increases in cost beyond the £4.7 billion contingency, but it is also essential to achieving the full intent behind Future Force 2020. This includes purchasing equipment outside the core programme and, where appropriate, supporting equipment purchased under Urgent Operational Requirements.

Disclosure

Background

61 The government has committed to publishing an annual statement on the cost and affordability of the Equipment Plan. The statement should aid transparency, demonstrate whether the Equipment Plan is affordable and achievable, and provide the defence industry with more information as a basis for planning. To fulfil these aims, we would expect the statement to contain adequate and sufficient disclosures for users to fully understand whether the Equipment Plan is affordable and whether it is sensitive to changes in the underlying assumptions.

Assessing whether affordability statement disclosures are adequate

62 In order to assess whether the disclosures in the Department's affordability statement are adequate and sufficient, we used as a framework the 'International Standard on Assurance Engagements 3400: The Examination of Prospective Financial Information' (the Standard).²⁴ The relevant elements extracted from the Standard that are applicable to this engagement are listed below:

- The presentation of prospective financial information is informative and not misleading.
- The assumptions are adequately disclosed in the notes to the prospective financial information. It needs to be clear whether assumptions represent management's best estimates or are hypothetical and, when assumptions are made in areas that are material and are subject to a high degree of uncertainty, this uncertainty and the resulting sensitivity of results needs to be adequately disclosed.
- The date as of which the prospective financial information was prepared is disclosed. Management needs to confirm that the assumptions are appropriate as of this date, even though the underlying information may have been accumulated over a period of time.
- The basis of establishing points in a range is clearly indicated and the range is not selected in a biased or misleading manner when results shown in the prospective financial information are expressed in terms of a range.

²⁴ Available at: www.ifac.org/sites/default/files/downloads/b013-2010-iaasb-handbook-isa-3400.pdf

Findings

Is there sufficient disclosure regarding cost assumptions?

63 The statement provides a breakdown of the costs of the Equipment Plan into the component parts, including the core, contingency, unallocated budget and over-programming assumptions. This gives the user a clear view of the value and profile of these costs. The statement also provides an adequate narrative on the approach that the Department is taking to achieve and maintain affordability and the rationale for the contingency provision. Data on cost variations from the previous year to the current position are presented in a way that clearly shows the stability of the planned costs and the drivers for variations; this will provide a valuable performance indicator for assessing the accuracy of the costings as more data accumulate in future years.

64 However, the statement lacks sufficient detail on the assumptions that underpin the costs presented for the user to have a clear view of the inherent risks to the affordability position. For the user to understand the sensitivity of the cost assumptions, we would expect disclosures describing the following:

- The approach to inflation and foreign exchange assumptions and the sensitivity to these assumptions.
- How costs are derived at the project level, including the fact that the project costings are 50th percentile estimates.
- Consideration of the range of possible values the total Equipment Plan could cost.
- The total value of risk outside costing and the impact on affordability should these risks materialise.
- That, for the position reported in the statement, the Department's internal cost assurance service had not yet scrutinised the equipment support costs to the same level as the procurement costs, and no evidence could be presented to the auditors for the financial year 2012-13, so the assurance the Department can offer Parliament is limited.
- The impact that cost increases in the largest programmes would have on affordability, so that the user of the statement understands how sensitive the overall position is to movements in the projects that comprise the Equipment Plan.
- A discussion of key risks to affordability, including the major projects' sensitivity to cost increases and the need to realise the cost benefits assumed in the Equipment Plan.

Is there sufficient disclosure regarding funding assumptions?

65 The statement adequately discloses the Department's method and rationale for allocating funding to a core programme while retaining an £8.4 billion unallocated budget. However, the disclosure in the statement does not address the assumptions that the Department makes on the overall level of funding available to the Equipment Plan.

66 Given the wider economic pressures under which government departments are operating, and the subsequent reductions to departmental budgets through the Autumn Statement and Spending Round 2013, the statement should include details about the availability of funding to the Equipment Plan and the impact of the changes of these assumptions. For the user to fully understand the effect that changes in the funding assumptions could have on affordability, the statement should contain the following:

- The assumptions that underpin the level of funding allocated to the Equipment Plan, and the sensitivity of the plan's affordability should these change.
- A description of the need to meet cost reduction targets in non-equipment areas of the Department's budget to allow the planned level of funding to be available for the Equipment Plan.

Conclusion

67 While the statement provides a sufficient level of detail on the Department's approach to managing the Equipment Plan at the strategic level, it does not contain information about the assumptions on which the costs and availability of funding are based. We would expect the statement to describe the risks and sensitivity of the affordability position to changes in the key assumptions.

Appendix One

Procedures performed and associated findings

The specified procedures listed below have been selected and performed drawing on the principles set out in the professional standard 'ISAE 3000: Assurance Engagements Other Than Audits or Reviews of Historical Financial Information'. We have set out our findings against each of the specified procedures performed.

Procedures

Procedures related to assumptions underpinning planned procurement costs

- We reviewed alternative costings to those of the project teams, generated by the Department's internal Cost Analysis and Assurance Service. We worked with their staff to understand the methods and scope of their work, and where there were significant variances from the project teams' estimates we evaluated the risk to the affordability assertion.
- We undertook a detailed review of 16 of the largest procurement projects (comprising 20 cost lines) in the Equipment Plan, which included the previous year's sample of eight projects.
- We reviewed the process of generating the cost forecasts for the sample through reviewing risk management; examining the cost models and cost estimating techniques used; examining how uncertainty and risk are built into costings; and matched the cost and spend profiles back to contracts.
- We reviewed the approach set out in the centrally issued guidance on how to treat inflation and foreign exchange, and we looked at how these assumptions were applied in our project sample.
- We reviewed historical data on actual costs against planned spending to assess the Department's ability to accurately forecast costs on a yearly basis.
- We assessed the Department's process for aggregating project costs into the Equipment Plan.

- We reviewed the basis for the centrally held contingency provision of £4.7 billion, put in place by the Department to manage cost growth and risk, and considered whether this amount is sufficient, based on our understanding of risk and historical trends.
- We expected that the Department would be able to provide us with audit evidence for the equipment support costs so that we would be able to include this element within the scope of our review. We found that the Department is not in a position to be able to provide sufficient evidence so we are not offering a view on the accuracy of these costs at present. We did undertake work to better understand these costs and the factors that influence them with a view to informing our next review of the Equipment Plan.

Procedures related to assumptions underpinning planned future funding

- We reviewed whether the assumptions on which the Department is basing its expected funding are realistic.
- We compared the allocation of funding to the Equipment Plan as a percentage of total funding with historical trends for different funding scenarios.
- We reviewed evidence of whether the Department can develop the equipment capability needed to achieve its strategic objectives within the available funding by reviewing departmental analysis in this area and conducting interviews with key personnel.

Procedures related to disclosure

- We reviewed the disclosures in the Department's statement to assess whether they are adequate and sufficient.

Summary of findings

Findings from procedures on cost assumptions

- The Department has continued to use the Cost Analysis and Assurance Service to provide cost estimates that are independent of those provided by the project teams, for a sample of its largest procurement projects. These cost estimates are used by management to challenge the accuracy and risk of the project teams' costings as part of the Department's internal review process. They also provide a means for the Department to assess the contingency provision it holds. Evidence from the cost challenge work indicates that the core programme may be understated by £4.4 billion for the ten-year period 2013 to 2023.
- The total ten-year forecast cost of our sample of 20 cost lines has remained stable in the two financial planning years 2011-12 and 2012-13. There has been a decrease in the cost of £0.5 billion for the ten-year period from 2013 to 2023, but £425 million of this is an accounting adjustment that relates to one project. Once this is excluded, the change is a decrease of only £85 million on a total forecast cost of £44 billion.
- The Department uses sophisticated costing techniques to incorporate risk and uncertainty into its forecast costs. When used well, these techniques provide a range of costs for a given project to inform decisions. However, these costing techniques are used inconsistently by the project teams, in both the methods used and the skill with which they are applied. Project teams could not supply evidence to support the potential range of project costs for 11 of our sample of 20 cost lines.
- All the projects we reviewed had risk processes in place to identify, escalate and record risks. However, there was inconsistency in the ways in which project teams treated risk in their cost estimates. Of our sample of 20 cost lines, 10 did not have an adequate audit trail to demonstrate how risk was incorporated into the cost line. In addition, the data were not available for us to have a consistent view of the risks that had been identified and costed by the project teams, but that they had not incorporated into their cost models.
- Individual project teams use inflation assumptions that they consider the most appropriate for a specific project. In the projects we sampled, we found evidence that the inflation rates used were based on historical analysis and/or inflation rates set out in the contracts. Inflation rates are inherently variable, but we consider this a reasonable approach.

- Foreign exchange is planned using current rates, with cost variations managed centrally through a centrally held provision. Hedging is used to mitigate short-term cash flow fluctuations. In our view, this is a reasonable approach.
- The Department does not yet have the data to allow us to compare annual planned spending with actual spending across the whole Equipment Plan. For our sample of 20 cost lines, we looked at the actual spend for 2012-13 and compared this against the planned costs. Ten cost lines showed a negative variance of 5 per cent or more, giving a total underspend of £128 million for the sample. The Department underspent against the forecast cost of the core programme by £1.2 billion in 2012-13, but the Department does not fully understand the implications of this on future equipment spending.
- To obtain a total figure the Department simply adds the 50th percentile values for all projects. This over-simplifies the total as it neither takes account of the variety of cost distributions associated with each project nor provides an associated precision with that estimate. To fully understand the range of costs and the inherent instability of the overall Equipment Plan, the Department would need to undertake further analysis.
- The contingency provision (£4.7 billion) protects the stability of the Equipment Plan to some extent, but there are issues that need to be resolved by the Department before we can be confident that this sufficiently mitigates the existing risks to affordability. In particular, the Department would need to extend its internal assurance processes to equipment support costs in order to present us with evidence that these costs are sufficiently robust for planning purposes.
- We are currently unable to offer a view on the support costs. However, from our review of seven support cost lines, the evidence is that the equipment support costs are subject to the same variability and risk as the procurement costs.

Findings from procedures on funding assumptions

- The Department's plans are based on receiving funding with an annual increase of 1 per cent above inflation for the Equipment Plan element only, from 2015 until 2023. This increase was agreed by the Chief Secretary to the Treasury in 2011 for the period until 2021, and the Department has assumed that this arrangement will apply for 2022 and 2023. The agreement can be reopened if there is a significant adverse fiscal shock that requires public expenditure to be reprioritised.
- Equipment Plan funding is not protected by HM Treasury and costs must be met from the total funding for the provision of Defence capability. Funding that is not allocated to the Equipment Plan must be sufficient to meet other departmental expenditure. Since 2010, the Department's funding has been reduced, through the Autumn Statement 2012 (£725 million total reduction during 2013-14 and 2014-15) and the Spending Review 2013 (a further 2 per cent reduction from 2014-15). Departmental budgets after 2015-16 are yet to be determined, but if the Department's overall budget continues to decrease, the level of planned funding available to the Equipment Plan will depend on costs being reduced and efficiencies successfully implemented in other areas of departmental expenditure.
- With the exception of deliberate over-programming in the years 2013-14 to 2016-17, the Department has matched the planned cost of the Equipment Plan necessary for it to deliver its strategic objectives to within the planned funding. Planned costs include a £150 billion core programme to which the Department is committed, the contingency provision of £4.7 billion, and an unallocated budget of £8.4 billion. The unallocated budget of £8.4 billion will be used to achieve future equipment capability requirements as and when they are needed and are judged to be affordable. The £8.4 billion is available to protect the core programme, but this would reduce the available funding for new requirements.

Findings from procedures on disclosure

- The statement provides a sufficient level of detail on the Department's approach to managing the Equipment Plan at the strategic level. However, it does not contain information about the assumptions on which the costs and availability of funding are based, which would allow the user to understand risks and the sensitivity of the affordability position to changes in the key assumptions.

Appendix Two

Performance indicators

These are the measures against which the Department must improve its performance in order to demonstrate that it has addressed the key risks to the affordability of the Equipment Plan.

Performance indicator	The Department's ability to report against the indicator in 2013	Evidence provided by the indicator about the Department's ability to deliver an affordable Equipment Plan
Accuracy of historical forecasts of costs to deliver projects	The Department can report costs against forecast on a project-by-project basis. However, it is unable to collate this information to obtain a view of cost against forecast for the whole portfolio or to analyse the causes of variances. It is putting in place measures to be able to do this for the 2014 to 2024 budget cycle.	Performance against this indicator will need to be established over time, as 2012-13 is the first year for which we have been able to assess the accuracy of the forecasts of the projects within our sample. Of the 20 cost lines within our sample, 12 had an underspend (£357 million) and 8 had an overspend (£229 million).
Accuracy of historical forecasts of the time needed to deliver projects	The Department can report progress against milestones on a project-by-project basis through the <i>Major Projects Report</i> . However, there can be many years between milestones and the Department does not always have a clear view of progress against the schedule between the milestones. For example, the Department does not understand the impact of its £1.2 billion underspend on the Equipment Plan in 2012-13 or the extent to which this has been caused by programme slippage.	Performance against this indicator will need to be established over time. The results of the <i>Major Projects Report 2013</i> show that, of the nine post-Main Gate projects included within the sample on which we were able to report, six reported no time variation and three reported a delay totalling 17 months. ¹ This compares favourably with last year, when the majority of projects had delays during the year, six of which were of more than a year.
Agreed military capability delivered through the Equipment Plan	When the Department takes its main investment decision, it approves a number of key performance indicators for each project that demonstrate whether the equipment provides the intended military capability.	The <i>Major Projects Report 2013</i> reports that the Department expects to achieve 98 per cent of its key performance indicators. These measures are set for each project at the time of the main investment decision and provide an indicator of whether the equipment is providing the required military capability. The £8.4 billion unallocated budget is required to purchase equipment outside the core programme so that the Department can implement Future Force 2020. It is too early to tell whether this budget will be available when it is needed or whether it will be required to deliver the core programme.
Achievement of savings in non-Equipment Plan areas of the budget	The Department is able to measure its performance in relation to achieving non-Equipment Plan savings targets.	The Department believes that it is on track to achieve the necessary savings. A review of performance during the 2013 budgeting cycle concluded that, of the 85 options taken to deliver savings, 80 per cent showed no significant risks to delivery.

Performance indicator	The Department's ability to report against the indicator in 2013	Evidence provided by the indicator about the Department's ability to deliver an affordable Equipment Plan
Equipment support costs	During the Public Accounts Committee hearing on the <i>Equipment Plan 2012 to 2022</i> , the Department undertook to be able to provide data to the National Audit Office on the accuracy of the £87 billion forecast costs within the Equipment Support Plan in time for the data to be included in our fieldwork for the 2013 to 2023 plan. ² The data were not available and we have therefore not been able to undertake any detailed review of the equipment support costs. The Department has work under way that should make data available for 2014 to 2024.	Not applicable.
Budget management	The Department can report spending against budget at a departmental level but has been unable to give us a breakdown of spending against budget at an Equipment Plan level or provide us with reasons for the variances.	During 2012-13, the Department was forecasting a significant underspend against its capital budget. Consequently, at the Supplementary Estimate 2012-13, the Department switched £1.5 billion in capital expenditure to resource expenditure. It was also allowed to carry forward £1.59 billion to future years through Budget Exchange. The Department underspent against the forecast cost of the core programme by £1.2 billion in 2012-13. The Department is currently unclear about the implications of the under-spend and there is a risk that project schedules will slip if significant underspends occur in future years.
Amount of risk incorporated into costings	The Department is able to report on the amount of risk included within forecast costs on both a project and a portfolio basis. However, it does not have a clear view of the spread of risk across the portfolio, or of the costs excluded from modelling and their likelihood of occurring. This information is necessary for the Department to make a reasonable estimate about the size of the contingency required.	In October 2012, the Cost Assurance and Analysis Service undertook a review which concluded that the Equipment Plan core programme was likely to be understated by £4.4 billion. It is encouraging that the gap between the Cost Assurance and Analysis Service's view of the likely project costs and the project teams' view is now smaller than the size of the contingency. However, the contingency is only 3 per cent of the value of the Equipment Plan. It therefore remains to be seen whether the contingency will be sufficient to cover increases in the cost of the Equipment Plan.
Cost maturity and control, including: identification and treatment of risk; quality of data; and internal control and assurance	The Department is able to report on the processes by which it challenges and verifies the accuracy of project costs.	The Department has a quarterly review process in place to challenge project costs and to scrutinise the treatment of risk. This is informed by the work of the Cost Assurance and Analysis Service. We welcome this regular scrutiny of project cost forecasts and of the information that underpins them. However, we believe that the scrutiny process could be improved by better data on the indicators set out above, including a more transparent view of risk.

Notes

- 1 The point at which the Department takes the main decision to invest.
- 2 Committee of Public Accounts, *Ministry of Defence: Equipment Plan 2012 to 2022 and Major Project Report 2012*, First Report of Session 2013-14, HC 53, May 2013, Oral evidence p. 9.

Appendix Three

Aligning the *Equipment Plan 2013 to 2023* and the *Major Projects Report 2013*

The same project sample was used for the *Equipment Plan 2013 to 2023* and *Major Projects Report 2013*, to bring the two engagements into closer alignment. However, the *Major Projects Report 2013* defines projects by how they are approved whereas the *Equipment Plan 2013 to 2023* considers projects by cost lines selected from the Department's ten-year forward plan.

A procurement project may consist of one or more cost lines depending on how the Department budgets for the costs. **Figure 10a** overleaf shows how the 11 projects reviewed as part of the *Major Projects Report 2013* are mapped to the 13 cost lines sampled for the *Equipment Plan 2013 to 2023*; in many cases the project has only one cost line. The *Equipment Plan 2013 to 2023* excluded a number of cost lines that had a relatively lower remaining spend over the ten-year period and would not have a material impact in our review of affordability.

Figure 10a

A comparison of the projects and cost lines examined as part of the *Major Projects Report 2013* and the *Equipment Plan 2013 to 2023* where the Department has taken the main decision to invest

Project		<i>Major Projects Report 2013</i>	<i>Equipment Plan 2013 to 2023</i>
A400M		✓	✓
Astute		✓	✓
Core Production Capability		✓	✓
Complex Weapons	Brimstone 2	✓	Outside sample
	Sea Ceptor	✓	✓
	100 kg Selective Precision Effects at Range Capability 3	Not approved	✓
Future Strategic Tanker Aircraft		✓	✓
Lightning II	System Demonstration and Development	✓	
	Production Sustainment and Follow on Development	✓	✓
Military Afloat Reach and Sustainability		✓	✓
Queen Elizabeth Class aircraft carriers		✓	✓
Specialist Vehicles	Scout	✓	✓
	All Vehicles	Not approved	
Typhoon	Tranche 1, 2 and 3	✓	✓
	Future Capability Programme	✓	Outside sample
	Typhoon Missile Integration	Not approved	✓
Warrior Capability Sustainment Programme		✓	✓

Source: National Audit Office

The *Major Projects Report* also reviewed five projects where the main investment decision has not been taken. This represents seven further cost lines that were sampled for the *Equipment Plan 2013 to 2023*, as illustrated in **Figure 10b**.

In total, the *Major Projects Report* includes 16 projects that for the purpose of the *Equipment Plan 2013 to 2023* have been treated as 20 distinct cost lines. However, the *Major Projects Report* and the *Review of the Equipment Plan* take data from the same source; the differences between the two reports lie principally in the way that data are analysed. This is illustrated in **Figure 11** on page 42. Future reviews will align the two reports further.

Figure 10b

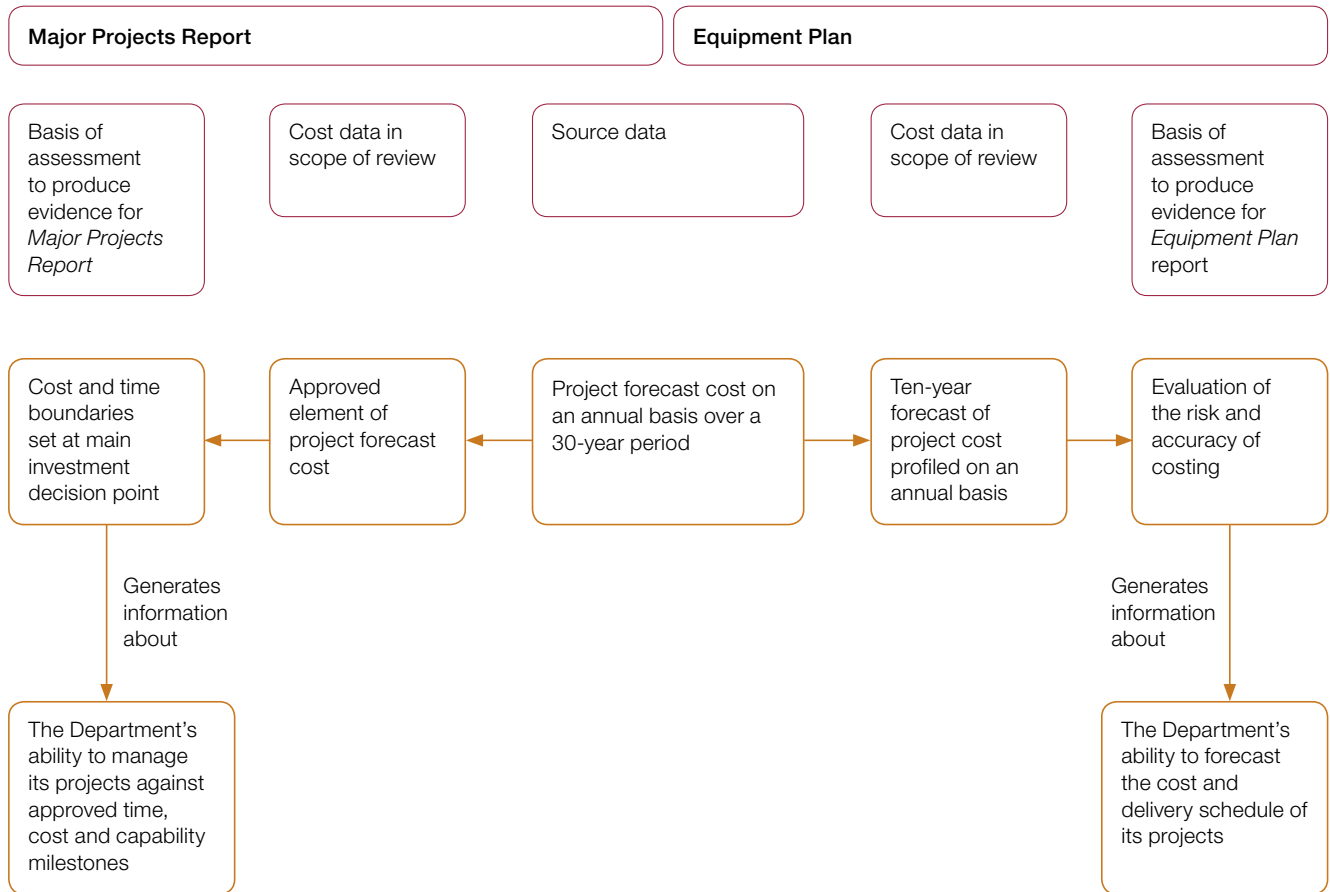
A comparison of the projects and cost lines examined as part of the *Major Projects Report 2013* and the *Equipment Plan 2013 to 2023* where the Department has not yet taken the main decision to invest

Project	<i>Major Projects Report 2013</i>	<i>Equipment Plan 2013 to 2023</i>
Cipher	✓	✓
Successor		✓
Successor Platform		✓
Next Generation Nuclear Propulsion Plant	✓	✓
Common Missile Compartment		✓
Type 26 Global Combat Ship	✓	✓
Utility Vehicles	✓	✓
Attack Helicopter Capability Sustainment Programme	✓	✓

Source: National Audit Office

Figure 11

A flow diagram to show how the same source data is analysed in different ways to produce evidence for the *Major Projects Report* and the *Equipment Plan*



Source: National Audit Office



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