National Audit Office

# The Equipment Plan 2021 to 2031

Ministry of Defence

REPORT

by the Comptroller and Auditor General

SESSION 2021-22
21 FEBRUARY 2022
HC 1105

We are the UK's independent public spending watchdog.

We support Parliament in holding government to account and we help improve public services through our high-quality audits.

The National Audit Office (NAO) scrutinises public spending for Parliament and is independent of government and the civil service. We help Parliament hold government to account and we use our insights to help people who manage and govern public bodies improve public services.

The Comptroller and Auditor General (C&AG), Gareth Davies, is an Officer of the House of Commons and leads the NAO. We audit the financial accounts of departments and other public bodies. We also examine and report on the value for money of how public money has been spent.

In 2020, the NAO's work led to a positive financial impact through reduced costs, improved service delivery, or other benefits to citizens, of £926 million.

# The Equipment Plan 2021 to 2031

## Ministry of Defence

**Report by the Comptroller and Auditor General**

Ordered by the House of Commons
to be printed on 21 February 2022

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

**Gareth Davies**
**Comptroller and Auditor General**
**National Audit Office**

**18 February 2022**

HC 1105 | £10.00

## Value for money reports

**Our value for money reports examine government expenditure in order to form a judgement on whether value for money has been achieved. We also make recommendations to public bodies on how to improve public services.**



**009286 02/22 NAO**

# Contents



This report can be found on the National Audit Office website at www.nao.org.uk

If you need a version of this report in an alternative format for accessibility reasons, or any of the figures in a different format, contact the NAO at enquiries@nao.org.uk

The National Audit Office study team consisted of:

Alexander Barry, Kaye Dunnet, Toby Evans, Tanya Khan, Connie Lim, Abdullah Mohamed, Shathiya Rajakanthan, Matt Sharland and Michael Slater, under the direction of Tom McDonald.

For further information about the National Audit Office please contact:

National Audit Office
Press Office
157–197 Buckingham Palace Road
Victoria
London
SW1W 9SP

020 7798 7400

www.nao.org.uk

@NAOorguk

# Key facts

**£238bn**

the Ministry of Defence's (the Department's) equipment procurement and support budget for the period 2021-2031

**£4.3bn**

the Department's assessment of the Equipment Plan's (the Plan's) surplus of budget over costs

**£22bn**

adjustments made to reduce the Equipment Plan (the Plan's) costs (equivalent to 9% of total costs before these adjustments)

| | |
|---|---|
| **£48 billion** | increase in the Department's equipment procurement and support budget between 2020–2030 and 2021–2031 |
| **£15.8 billion** | new investments announced through the Integrated Review reflected in the 2021-31 Plan |
| **£4.1 billion** | strategic disinvestments made through the Integrated Review reflected in the 2021-31 Plan |
| **£3.9 billion** | savings without delivery plans which the Department assumes will be found in the Equipment Plan between 2021-2031 |
| **Third quartile** | HM Treasury's 2021 assessment of the Department's relative financial capability, placing it in the lower half of government departments |
| **£1.05 billion** | funds set aside to take advantage of promising research and development so that it leads to usable military capabilities (0.4% of the Plan's budget) |

# Summary

**1** The Ministry of Defence (the Department) publishes its Equipment Plan (the Plan) report each year, setting out its spending plans in equipment procurement and support projects over the next 10 years. The Department introduced its first Equipment Plan in 2012 after a period of weak financial management. Its aim was to produce a reliable assessment of the affordability of its equipment programme, and by doing so demonstrate to Parliament that the programme was based on realistic and effective long-term financial decisions. The Secretary of State for Defence invited the Comptroller and Auditor General to examine the robustness of the Equipment Plan's underlying assumptions.

**2** Each year since then we have published a report examining the Department's assessment of the Equipment Plan's affordability and its response to the financial challenges it faces. These assessments have shown that the Department has consistently found it difficult to strike the right balance between increasing equipment capability and living within its means. The 2010 Strategic Defence and Security Review took the decision to eliminate a number of capabilities, helping to bring spending in line with the funds available. As a result of the 2015 Strategic Defence and Security Review many of the cuts were reversed. Since then, we have found that the risks to the Equipment Plan's affordability have increased, leading the Department to make short-term deferrals of expenditure which adversely affect equipment capability and value for money.

**3** In November 2020, as part of the Spending Review, HM Treasury announced that the Department would receive an additional £16.5 billion above its standard annual increase between 2021-22 and 2024-25. This was followed by the government's publication of the Integrated Review of security, defence, development and foreign policy and the complementary Command Paper on Defence in March 2021, which set out policy intentions for defence over the next decade. The Department announced that the combination of these reviews and the settlement represented a real chance to remedy the affordability problems it had struggled with in its equipment planning over many years, as well as a chance to make a step-change in defence capability.

**4** This report examines whether the Department has managed to reduce the risks to affordability in its Plan. It also examines whether the Department is on track to address the wider management and structural weaknesses which have undermined previous Plans. In particular it examines:

- the impact of the increased settlement and Integrated Review on funding for equipment, and the Department's assessment of affordability in its 2021–2031 Plan (Part One);
- how the Department is managing the risks to affordability (Part Two); and
- the extent to which the Department has put in place the building blocks needed for a robust and effective Plan (Part Three).

**5** We do not consider the value for money of specific projects mentioned in this report. Nor do we comment on the specific decisions that the Department must take to develop an affordable Equipment Plan to meet future needs, which are policy choices. We have not reviewed the Department's systems to test the accuracy of its data. But we have examined its own quality assurance arrangements for testing the consistency and reliability of data used in the Plan.

## Key findings

### The impact of the Spending Review and the Integrated Review on the Equipment Plan

**6 The government has given a significant increase in funding to defence over the next four years, and the Department is investing more across its activities, including a record increase in equipment**. The 2020 Spending Review determined that the Department's overall budget for the period between April 2021 and March 2025 would be £16.5 billion higher than previously assumed. The Department has subsequently set out how it intends to reshape the armed forces to meet future threats. It is spending more on infrastructure and other priorities, such as the National Cyber Force. It expects to spend £11.7 billion more on equipment over the four years covered by the Spending Review. Over 10 years, the Plan has increased in value from £190 billion in the 2020–2030 Plan to £238 billion for 2021–2031, an increase of £48 billion (25%). This is by far the largest increase in the Plan's 10-year history (paragraphs 1.5, 1.6, 1.10 and 1.11).

7 **The Department has invested in new capabilities and cut or deferred some existing programmes, and assesses that the Plan is now affordable**. In addition to re-affirming investment in many existing projects, such as the Type 26 frigate, the Department plans to bring forward spending on other projects, such as the replacement for Astute submarines. It also intends to spend £15.8 billion on new capabilities before March 2031, including £1.3 billion developing a new system to detect and destroy sea mines. It is stopping investments, such as the Warrior armoured vehicles and Hercules transport aircraft, and scaling back others. It also intends to defer some investments to save money in the short term. In some cases, this will lead to higher costs because of the need to re-contract at higher prices (at the time of the Integrated Review, it expected delaying a project to buy new Chinook helicopters by three years would cost an additional £295 million). The Department assesses that the result of these plans, as well as taking account of some unexpected growth in project costs, is that for the first time in four years the Plan is affordable. It currently estimates that the Plan's budget will exceed costs by £4.3 billion to 2031 (paragraphs 1.7 to 1.9, 1.12, Figures 1 and 2).

## Managing risks to the Equipment Plan's affordability

8 **Our audits of the Department's Equipment Plans since 2012 have enabled us to identify where we should focus our work to test whether the Plan is affordable over the next 10 years**. In terms of the adequacy of available resources, these include whether the Plan's budget takes sufficient account of the potential impact of other parts of the defence budget (such as infrastructure and workforce) coming under pressure in future years, and that it assumes only those efficiencies and cost reductions which are likely to be achieved. We also look at whether the budget contains all the equipment projects the Department is planning and whether it reflects the ambitions of key policy documents such as the Integrated Review. On the cost side, we examine whether the cost estimates are accurate and based on the best available information, including taking proper account of uncertainty, especially in less mature projects. Focusing on these risk factors, we set out in the rest of this part of the Summary the results of our review of the Plan's forecast budget and costs.

**Budget assumptions**

9 **The Department's total planned spending across all its areas and activities is higher than the budget it expects to receive from HM Treasury over the next 10 years, effectively reducing the contingency earmarked for the Equipment Plan**. The Department's planned capital spending exceeds its budget in seven out of 10 years, and its resource spending exceeds budget in five out of 10. The Department believes that savings will be made over the years so that budget and costs will eventually align. It has apportioned the current overall budget shortfall against the three different areas of spending (of which the Equipment Plan is one) in proportion to their relative size. As a result, the Equipment Plan budget has been reduced by nearly £1.9 billion over 10 years. This effectively reduces the contingency notionally earmarked for the Plan from £5.9 billion to £4.1 billion (paragraphs 2.4 and 2.5).

**Cost estimates**

10 **Some project teams have identified a range of costs not currently included in the Plan, which could result in financial risk if the Department does not reassess its priorities**. The Department could address this risk by accepting scope reductions or later delivery of the capability in the related projects. Including these costs would increase the cost of the Plan by £4.2 billion, and both new and existing projects are affected, although none of them have secured full business case approval.[1] The Department has the opportunity to re-visit budgets at that stage. The amount included for one of these projects – the Future Combat Air System – could be considerably less than the funding required over the next 10 years. Its affordability will depend on assumptions about the capability, timetable and contribution from international partners (paragraphs 2.6 to 2.8 and Figure 5).

11 **More widely, project costs could increase by more than the Department has allowed for**. The Department's Cost Assurance and Analysis Service (CAAS) produced an independent assessment of the cost of projects making up 58% of the Plan's costs this year. It concluded that these projects are likely to cost £7.6 billion more than the Plan assumes.[2] It expects that the Dreadnought nuclear submarine, the largest programme in the Plan, will cost an additional £2.6 billion (the Department may be able to ask HM Treasury to increase its budget if Dreadnought costs do increase). Other nuclear projects are also at particular risk of cost growth. This potential cost growth is considerably more than the £4.3 billion total surplus over 10 years, which the Department has assessed it has available. Furthermore, inflation has increased since CAAS's work. While HM Treasury has made available £700 million each year from 2022-23 in part to recognise this change, the extra funding is for day-to-day costs only, while the majority of Equipment Plan costs are capital spending (paragraphs 2.10, 2.12 and 2.14 to 2.15).

1 This includes £409 million of costs associated with the Morpheus programme, which are also included in the Cost Assurance and Analysis Service's assessment that Equipment Plan costs could be £7.6 billion higher (see paragraph 11).

2 CAAS included the under-costing of the Morpheus programme by £409 million in this assessment, but not the other programmes we discuss in Paragraph 11.

**Negative cost adjustments**

12 **The Plan's budget and projected costs assume that Top Level Budgets (TLBs) will reduce equipment costs by £7 billion over the next 10 years**. They do not yet have plans to achieve £3.9 billion of these 'Planned Cost Reductions', but the Department's worst-case affordability scenario assumes that only £935 million of savings will not be achieved. Navy and Air Commands need to identify many more savings than the other TLBs; Air Command has little flexibility as it is already committed to 62% of its spending over the next 10 years. The TLBs also still need to implement £2.8 billion of efficiency savings (defined as cost reductions which do not affect outputs), which are not well developed, on top of the savings already deducted from projects. Outside the Equipment Plan, the Department requires TLBs to make at least £3.7 billion of savings over and above their headcount reduction targets (paragraphs 2.16 to 2.18).

13 **The Plan also still includes large adjustments to anticipate future delays in the delivery of equipment.** TLBs assume that in future years some equipment will not be introduced as quickly as planned and they adjust spending forecasts accordingly. This year these adjustments are £12 billion, compared with £10 billion in the 2020 Plan, which is a similar proportion of total project cost estimates. We have been critical of the lack of evidence supporting these adjustments and expressed concerns that they were being used to make the Plan seem more affordable. This year we have found some improvement, in particular a more robust methodology used by Navy Command (paragraph 2.21).

**The Plan's completeness**

14 **It is too early to say if the planned new investments in equipment will mean that the Plan includes all the equipment that the armed forces need**. We reported in our report on the 2020–2030 Plan that filling known and expected equipment capability gaps would cost at least £20 billion. This assessment was based largely on the Department's Defence Capability Assessment Register (DCAR), which assesses the armed forces' effectiveness against a set of scenarios based on the tasks they are expected to prepare for. The Department did not carry out a DCAR assessment this year. Still, a less formal assessment concluded that its Integrated Review investment decisions will reduce the previous capability risk against most of the tasks tested. However, the Plan does not include the procurement and support costs of the new 'National Flagship'. The Department expects to award a fixed-price contract and that the project will cost around £250 million (paragraphs 2.23 and 2.24).

15 **The Department believes its planned spending of £7.4 billion on Research and Development (R&D) between 2020-21 and 2024-25 is an increase from previous periods, but this is difficult to validate as the basis of measuring R&D spending has changed.** In the following six years, current forecasts suggest spending will be significantly lower, although the Department believes projects are under-reporting how much of their spending will qualify as R&D in these years. The Department is setting aside an additional £1.05 billion from 2026-27 to 2030-31 to exploit research to develop usable military capabilities. This is only 0.4% of spending over the 10 years covered by the Plan, although the Department believes the boundary between R&D and exploitation is blurred. Without allocating more funding, there is a risk that some R&D work cannot be exploited. For example, the Department has not funded plans to develop an electronic warfare variant of the SPEAR 3 missile, even though it has judged the armed forces should have the capability (paragraphs 2.26 and 2.27).

**Managing pressures from spending in other areas**

16 **The Department is aiming to make challenging workforce reductions which, if it fails to achieve them, could reduce the amount it has available to spend on equipment to compensate**. The Army's target strength will be cut from 82,000 to 73,000 by March 2025. Other TLBs must make savings by 2030 equivalent to reducing their military workforce by 6,350, while the cost of the Department's civilian workforce needs to be 10% lower by March 2025. The Department's financial plans also assume further workforce cuts of £2.5 billion by 2030, but it has not yet announced how it intends to deliver these or required the TLBs to reflect them in their plans. The Department struggled to achieve previous top-down headcount reductions and is still working through its detailed plans to achieve these cuts. Retention rates are also higher than usual due to the uncertainty caused by the COVID-19 pandemic, making the challenge harder (paragraphs 2.28 to 2.30).

17 **Other cost pressures from pay growth and infrastructure demands could further reduce the Department's flexibility to provide expenditure for the equipment budget**. The Department's 2021 10-year spending plans set out very limited pay increases in the years up to 2024-25. In October 2021, HM Treasury agreed to provide an additional £700 million to the Department in each year from 2022-23 for day-to-day spending. However, the real value of military and civilian pay is still likely to decrease in every year until 2024-25. Reversing this would be very expensive: for example, an additional 1% pay rise in 2022-23 over the figure already planned would cost approximately £1.4 billion more over the following nine years. In addition, approximately 30% of the Department's built estate is below the acceptable standard. The Department plans to spend an additional £500 million on preventative maintenance by 2025, but this will not be enough to prevent further deterioration in the estate's condition. The Department does have £4.3 billion of contingency (above that ring-fenced for the Equipment Plan), but only £1.3 billion of this is available over the Spending Review period (paragraphs 2.28 and 2.31 to 2.33).

## Improving the Plan

**18** The weaknesses in cost estimating, over-optimism about budget and cost assumptions and a focus on the short term which we describe above have been consistent findings in our Equipment Plan reports over many years. As we have shown in these reports, together these issues have resulted, in addition to the high affordability risks, in adverse outcomes for equipment capability and value for money. To break the pattern, the Department needs to have in place arrangements and capabilities which have previously been absent or incomplete. This part of the summary examines recent progress and remaining issues and gaps in the key structural and management areas where we think change is needed for the Department to improve the Plan, and make it a reliable guide to affordability and long-term value for money.

### The Plan's production

**19 The Department's Plan document has improved in recent years, but there are still inconsistencies across years and between TLBs in the treatment of budgets and costs.** While the Department has improved the breadth and coverage of its report since 2012, it has not yet settled on a consistent basis of preparation. For example, the shortfall in the overall defence budget has been apportioned between the three areas of defence spending (one of which is the Equipment Plan) in a different way each year. And treatment of some aspects of costs are also inconsistent – for example, the basis of assessing the affordability range between best- and worst- case scenario has also changed. This lack of comparability undermines the Plan's reliability and the strength of some of the Department's assertions about improvement from previous years (paragraphs 3.4 and 3.5).

**20 The processes underlying the Plan's production incentivise short-term affordability, which builds up financial pressures over the longer term**. The Department's processes to agree budgets and costs typically take many months and result in a combination of TLBs deliberately spending more slowly on projects to keep within their budgets, and re-classifying budget shortfalls as 'Planned Cost Reductions' or efficiencies to be achieved in future years often without any plans on how to do so. These 'negative cost adjustments' make up 9% of the Plan this year (£22 billion) compared with 10% (£20 billion) in 2019. The Department has recognised that participants in the main budgeting process have serious concerns about the way it works including its focus on the current year to the detriment of later years. The Department is planning to make significant reforms by 2024 (paragraphs 3.6 to 3.14 and Figure 8).

**Financial skills**

**21 The Department has improved its financial skills in recent years but they are still short of the level it needs.** An effective Equipment Plan needs considerable financial management capacity to deal with the complexity and volume of the projects and programmes involved. The Department acknowledged in 2015 that it needed to improve its financial skills at all levels. It launched the Financial Functional Leadership (FFL) programme in 2018. Progress has been made, for example in building independent scrutiny of business cases and developing a new Department-wide finance operating model. But gaps remain and in 2021 HM Treasury assessed the Department as being in the third quartile of Whitehall departments in terms of financial capability. The Department has pointed to the COVID-19 pandemic, resource challenges and achieving TLB buy-in as key causes of recent delays to progress (paragraphs 3.15 to 3.17).

**Wider reform of equipment procurement and support**

**22 Over the past 10 years, the Department's various attempts to improve the wider programme and project management of its equipment have had limited success, and the enduring weaknesses continue to adversely affect risks to Equipment Plan affordability.** In 2011 the Department launched the Defence Reform Programme containing projects to improve the management of equipment procurement and support, which underpin Equipment Plan affordability assessments. Both our audits and Parliamentary scrutiny since then have shown that the Department's reform efforts have rarely met their aims. The Committee of Public Accounts has long been concerned that the Department has a cultural barrier to change. We found that only approximately half of the recommendations we have made in our Equipment Plan reports since 2015 have been fully implemented. The Department's current Defence Transformation Programme is forecasting a £0.7 billion shortfall on its aim to save £4 billion by 2030. Recent internal reviews have reported problems with the programme's governance and coherence (paragraphs 3.18 to 3.22 and Figure 9).

## Conclusion on value for money

**23** The Department received £16.5 billion additional funding over four years in the 2020 Spending Review both to support the 2021 Integrated Review's ambitious agenda and to cover previous funding shortfalls. The Department has taken difficult decisions to reduce spending in some areas to allow it to spend more on its highest priorities. It will carry out further work to assess what the changes in the Integrated Review mean for equipment in next year's Plan. However, in this year's Plan, risks remain of over-optimistic assumptions about future budgets, costs and the likely achievement of savings targets. There is a real risk that, despite the additional funding it has received, the Department's ambition outstrips the resources available to it.

**24** The new multi-year spending settlement gives the Department a rare opportunity to break old habits and set the Plan on course to be affordable. Despite some recent improvements, the Department continues to have to take short-term decisions to balance the books, restricting the delivery of equipment and reducing value for money. Some key arrangements and capabilities which need to be in place for an affordable and cost-effective Plan are still absent. These include: a consistent basis of preparation and reporting, the right incentives in place in the budgeting process for TLBs to focus on long term value for money rather than short term fixes, sufficient financial skills and a long-term approach to efficiencies and savings. To build confidence in the Plan, the Department also needs to deliver promised reform of the management of equipment procurement and support.

## Recommendations

**25** The Department has not yet fixed its long-standing problems in managing the Plan. It will struggle to do so unless its Head Office, working with the TLBs, makes a fundamental change to the way it builds, and reports on, the Plan. In particular, the Department should:

**a** ensure all components of the Plan's budgets and costs are prepared on a consistent basis between TLBs and across years, including for example on contingency, apportionment of defence budget shortfalls, and the basis for calculating the range which expresses affordability. This would provide comparability and enable stakeholders to track progress and variability of performance;

**b** as part of the process of putting the Plan together, clearly set out the respective roles and responsibilities of TLBs and Head Office, including clarifying who is in charge of each part of the process. The objective of this would be to build a shared focus on creating the right incentives for maximising long-term value for money, such as how Head Office takes factors such as quality of cost information, historical delivery of efficiencies or forecasting accuracy into account when allocating budgets and future savings targets to TLBs;

**c** if total forecast spending exceeds overall control totals in any year, include a section within its Equipment Plan report explaining why the accounting officer is satisfied that this outcome is compliant with Managing Public Money's standards of regularity, propriety and value for money;

**d** in reporting on future assumed or targeted cost reductions within the Plan, make a clear distinction between those which are supported by a clear plan to achieve them, and those which represent an additional target, and provide supporting evidence;

**e** in order to give more assurance on the completeness of the Plan, carry out regular audits of capability gaps across TLBs and, subject to national security constraints, publish a high-level summary of the results, such as whether gaps are closing or widening over time; and

**f** explore the inter-dependencies between the three plans that make up the overall defence plan (the Equipment Plan, Infrastructure Plan, and the plan for operating costs). Using this analysis, it should assess the delivery risks of the Infrastructure and operating costs plans and how these may affect the affordability of the Equipment Plan over the next 10 years and include this in its report on the Equipment Plan.

HM Treasury should:

**g** define the purpose of the Dreadnought contingency and establish new governance arrangements, including the conditions under which additional funds will be provided to the Department. This work should be undertaken with the aim of incentivising the Department to complete submarine-building on time and in a way that represents value for money.

# Part One

## The Equipment Plan 2021-2031 and the Integrated Review

**1.1** The Ministry of Defence's (the Department's) Equipment Plan (the Plan) is the Department's assessment of the cost of its military equipment procurement and support requirements for the next 10 years, produced on a rolling annual basis. This Part sets out the background to the 2021–2031 10-year Plan and outlines the impact of the government's foreign, security and defence policy intentions – the Integrated Review – on the equipment procurement and support budget and forecast costs in the Plan.

### The history of the Equipment Plan

**1.2** Following a period of weak financial management, the Department introduced its first Equipment Plan in 2012. Its aim was to produce a reliable assessment of the affordability of its equipment programme, and by doing so demonstrate to Parliament that the programme was based on effective long-term financial decisions. At the outset it also intended to use the Plan as an aid to effective financial management.

**1.3** The Secretary of State for Defence invited the National Audit Office's Comptroller and Auditor General to examine the robustness of the Equipment Plan's underlying assumptions. Each year since then we have published a report examining the Department's assessment of the Equipment Plan's affordability and its response to the financial challenges it faces. Since 2017, we have assessed the Plan as unaffordable and identified the challenges facing the Department in sustaining a balance between an affordable Plan and its ability to increase equipment capability to deliver defence outcomes.

**1.4** The Department has struggled to sufficiently fund its ambitions over previous Spending Review periods. In 2012, the Department's estimate of the gap between its budget and its total forecast spending over 10 years was £74 billion. It therefore made radical cuts to balance the books. After the 2015 Strategic Defence and Security Review, it reversed many of the cuts made in the previous three years, such as withdrawing the maritime patrol aircraft. Since then, we have continued to report on the risks to affordability and how the Department's decisions to cut budgets in the short term have adversely affected equipment capability and value for money.

## The 2020 Spending Review and the Integrated Review

**1.5** In November 2020, the government announced a four-year Spending Review settlement, which increased the defence budget by £16.5 billion compared with the previous assumption that it would grow by 0.5% above inflation each year.[3] In total, the Department would receive £189 billion of funding over the next four years, with average growth (in real terms) of 1.8% each year between 2019-20 and 2024-25.[4]

**1.6** In March 2021, the government published its foreign, security and defence policy intentions (the Integrated Review).[5] At the same time, the Secretary of State for Defence set out further defence-specific details in the complementary Defence Command Paper.[6] The paper sets out how the Department is looking to both remedy its equipment planning affordability struggles of recent years and make a decisive shift in its approach by investing in modernised equipment and weapons systems and in agile, interconnected and data-driven future capabilities, in line with the wider objectives of the Integrated Review.

**1.7** The Command paper details the capabilities in which the Department will continue, stop or defer investment, as well as those that are new commitments. It reaffirms, for example, the purchase of new Apache helicopters and eight Type 26 frigates. Our analysis shows that the 2021–2031 Equipment Plan includes £15.8 billion of spending on new projects between 2021 and 2031 (**Figure 1**). This includes funding for 'portfolios' such as the shipbuilding pipeline. The eight largest programmes account for £10.6 billion (see Figure 1), of this.[7]

3 This is £24 billion more than would be available over the four years had there been no increase (in cash terms) above 2020-21 levels of spending.
4 The 2021 Spending Review revised this to £190.5 billion. However higher inflation forecasts meant the average annual growth reduced to 1.5%.
5 HM Government, *Global Britain in a competitive age: The Integrated Review of Security, Defence, Development and Foreign Policy*, CP 403, March 2021, available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/975077/Global_Britain_in_a_Competitive_Age-_the_Integrated_Review_of_Security__Defence__Development_and_Foreign_Policy.pdf
6 Ministry of Defence, *Defence in a competitive age*, CP 411, March 2021, available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974661/CP411_-Defence_Command_Plan.pdf
7 We considered the Department's initial assessment of what spending was new, which it set out in a June 2021 letter to the Committee of Public Accounts. The Department has since provided a more detailed analysis (in its report on the 2021–2031 Plan). Unlike our assessment, the Department's analysis includes spending outside the Equipment Plan.

## Figure 1
The largest new investments included in the 2021–2031 Equipment Plan

**The eight largest new investments cover 68% of all new equipment investments**

| Programme | Purpose of programme | Budget over 10 years (£m) |
|---|---|---|
| Additional Boxer armoured vehicles | To buy more Boxer armoured vehicles, in part to replace Warrior | 2,355 |
| Shipbuilding pipeline | To fund construction of new ships for the Royal Navy, including four new classes announced in the Integrated Review | 1,810 |
| Additional F-35 Lightning aircraft | To purchase additional combat aircraft from 2027-28, on top of the 48 to be delivered by 2025 | 1,400 |
| Mine Hunting Capability | To replace the Royal Navy's current Mine Counter-Measure vessels | 1,270 |
| Special Forces pipeline | To enable acquisition of additional equipment from 2025 | 1,100 |
| Digital Transformation | To create a 'digital backbone' underpinning other IT programmes | 1,040 |
| New Medium Helicopter | To replace four existing helicopters, including the Puma | 1,034 |
| Additional A400M aircraft | To purchase additional transport aircraft from 2028-29 | 750 |

**Notes**

1 Figures in this table come from the working papers the Ministry of Defence (the Department) used to allocate 10-year indicative budgets among its 'Top Level Budget Holders' (Navy, Army, Air and UK Strategic Commands, the Defence Nuclear Organisation and Strategic Programmes).

2 The Integrated Review also announced that £1.4 billion would be spent on a portfolio of space projects. This budget sits outside the Equipment Plan, although it is likely that some of the budget will be transferred to the Equipment Plan in the future as the Department makes decisions about how to spend this money.

Source: National Audit Office analysis of Ministry of Defence information

**1.8** As well as these new investments, the 2021–2031 Equipment Plan contains several programmes which have previously been announced, but where costs were not included in previous years' Plans. The Plans in previous years would have been less affordable if these costs were included. These programmes are:

- the Future Combat Air System (FCAS), a replacement for the Typhoon which was first announced in 2018. The Plan now includes £8.65 billion to acquire a new aircraft. We discuss FCAS further in Part Two;
- the programmes to sustain and replace the UK's nuclear warhead. The extra costs of £7.0 billion are largely due to the February 2020 decision to replace the warhead; and
- the new radar system for the Typhoon aircraft, which was first announced in 2015. The Plan includes £1.6 billion more to develop this system.

**1.9** The Command Paper also sets out a number of decisions to cancel, scale back or defer programmes. The Department expects to save £4.4 billion over the four years to 2024-25 (the period covered by its multi-year settlement), and £3.8 billion over the 10 years to March 2031 (**Figure 2** on pages 19 and 20). It expects to save less over 10 years because its deferral decisions mean costs will be incurred later than planned in some cases. For example, at the time of the Integrated Review it expected delaying procurement of new Chinook helicopters by three years would result in additional costs of £295 million by 2031, because of the need to re-contract at higher prices.

## The Equipment Plan budget

**1.10** The Department's 2021-31 Plan's assessment is based on financial information available at the start of the 2021-22 financial year. The Plan's budget is £238 billion, which breaks down as follows:

- Procurement (£114.5 billion).
- Support (£115.7 billion).
- Funding held by Head Office (£7.7 billion) to cover costs not budgeted for or allocated to Top Level Budget holders (Navy, Army, Air and UK Strategic Commands, the Defence Nuclear Organisation and Strategic Programmes, known collectively as 'TLBs'). This includes £5.9 billion of contingency ringfenced for the Equipment Plan.

## Figure 2

Significant deferral and disinvestment decisions underpinning the 2021–2031 Equipment Plan

**The Ministry of Defence (the Department) has identified measures which it expects will save £3.8 billion over 10 years, but which will affect military capability**

| Integrated Review decisions | Savings over the four years from 2021-22 to 2024-25 | Savings over the 10 years from 2021-22 to 2030-31 |
|---|---|---|
| | (£m) | (£m) |
| Deferrals (decisions to delay spending which will mean equipment enters service later than planned) | | |
| Delayed purchase of a new model of the Chinook helicopter by three years | 1,010 | (295) |
| Delayed purchase of new lightly armoured vehicles (the Multi-Role Vehicle Protected programme) by three years | 448 | 40 |
| Delayed construction of a radar system to detect ballistic missiles (by three years) to 2029 | 182 | (1) |
| Reprofiling of spending on Intelligence, Surveillance and Reconnaissance projects | 141 | (89) |
| Delayed spending on the long-term training and support service for the Apache helicopter | 100 | – |
| Delayed construction of a facility to support the F-35 aircraft by a further two years | 82 | (16) |
| Delay to the project to replace the Exactor 2 long-range guided missile by 18 months (now expected from 2030) | 74 | 150 |
| Delay of an upgrade to the Voyager air-to-air refuelling tanker by three years | 52 | (42) |
| Other deferrals | 49 | 5 |
| **Total deferrals** | **2,137** | **(248)** |
| Disinvestments (decisions which will permanently reduce capability) | | |
| Cancellation of upgrade of Warrior armoured vehicles | 766 | 863 |
| Reduction in number of E7 Wedgetail aircraft purchased (from five to three) | 398 | 715 |
| Retirement of Hercules transport aircraft by 2023 | 289 | 1,146 |
| Retirement of E3 Sentry aircraft in 2021 (before their replacement by E7 Wedgetail in 2023) | 111 | 101 |
| Reduction in Chinook fleet (by nine aircraft) and retirement of other helicopters | 110 | 196 |
| Reduced scope of upgrade of Exactor 2 missiles (a long-range guided missile) | 93 | 96 |

**Figure 2** *continued*

Significant deferral and disinvestment decisions underpinning the 2021–2031 Equipment Plan

| Integrated Review decisions | Savings over the four years from 2021-22 to 2024-25 | Savings over the 10 years from 2021-22 to 2030-31 |
|---|---|---|
| | **(£m)** | **(£m)** |
| Disinvestments (decisions which will permanently reduce capability) *continued* | | |
| Retirement of Hawk training aircraft | 86 | 168 |
| Retirement of two Type 23 frigates by 2023 | 76 | 87 |
| Cancellation of project to allow the Apache helicopter to fire Brimstone missiles | 50 | 119 |
| Decision to place both Wave class tankers in a state of extended readiness[2] | 40 | 79 |
| Retirement of existing Mine Counter Measure Vessels | 28 | 169 |
| Reduced ability to achieve 'information advantage' over potential adversaries outside the bounds of actual conflict | 28 | 125 |
| Retirement of older Typhoon aircraft by 2025 | 11 | 99 |
| Other disinvestment decisions | 126 | 123 |
| **Total disinvestment decisions** | **2,213** | **4,087** |
| **Grand total – deferral and disinvestment decisions** | **4,350** | **3,839** |

**Notes**

1 Figures in this table come from the working papers the Ministry of Defence (the Department) used to allocate 10-year indicative budgets to its 'Top Level Budget Holders' (Navy, Army, Air and UK Strategic Commands, the Defence Nuclear Organisation and Strategic Programmes). In some cases, these figures may change as the Department improves its understanding of the costs involved.

2 'Extended readiness' means that these ships will not be manned or maintained to the levels required for operational use, meaning it would take a considerable amount of time to make them available again. The Department has set aside £110 million between 2028-29 and 2030-31 to allow it to bring these ships back into service in the 2030s, if it chooses to do so. This cost is not included in these savings.

3 Figures may not sum due to rounding.

Source: National Audit Office analysis of Ministry of Defence information

**1.11** The Plan's budget is £48 billion (25%) higher than in the 2020–2030 Equipment Plan. The Department's overall budget is higher because of the Spending Review settlement and annual increase of 0.5% over inflation in later years.[8] The amount allocated to the Equipment Plan reflects this, as well as cost growth recognised by the Department within individual programmes. This is by far the largest increase since 2012; by comparison the second largest increase was 7% between 2015 and 2016.[9]

8 The Department used the Office for Budget Responsibility's March 2021 forecast of the GDP Deflator in 2025-26, 2.1% as the best available estimate of annual inflation in 2025-26 and later years.

9 The Equipment Plan budget reduced by 1% between 2013 and 2014 and 3% between 2018 and 2019.

## The Department's assessment of the Plan's affordability

**1.12** The Department assesses its 2021-2031 plan as affordable, with the Plan budget exceeding estimated costs by £4.3 billion over the 10-year period (**Figure 3**). This is the first time in four years that the Department assesses its Plan as affordable. The plan assumes delivery of savings and efficiency targets TLBs have been tasked with meeting, as well as adjustments to the budget to reduce costs (Part Two). The Department recognises significant risk remains in keeping the Plan affordable but is nevertheless confident that it will be achieved.

**1.13** The Department's view of £4.3 billion 'headroom' in the Plan over 10 years can be broken down as follows:

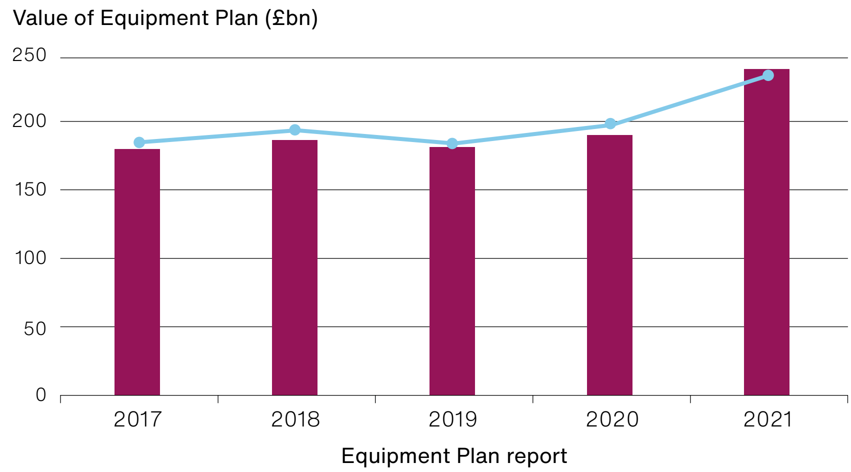
- It has given the TLBs indicative budget settlements which are £294 million over 10 years more than their forecast costs.
- It allocated £5.9 billion of contingency to the Equipment Plan. This could be used to absorb cost increases, or to fund additions to the Plan.
- This is offset by a £1.9 billion reduction, to account for the fact that its total forecast spending exceeds the overall budget it expects to receive in most years (see paragraphs 2.4 and 2.5).

**1.14** The rest of this report examines this year's Equipment Plan, in terms of the assumptions made by the Department to manage risks to affordability (Part Two), and how the Plan could be improved (Part Three).

**Figure 3**

The Ministry of Defence's (the Department's) Equipment Plan budgets and costs over the past five years

**For the first time in five years, the Department assesses that the Equipment Plan's estimated costs are lower than its budget**




| | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| Equipment Plan budget (£bn) | 180 | 186 | 181 | 190 | 238 |
| Forecast cost of equipment projects (£bn) | 185 | 193 | 184 | 197 | 234 |

Source: National Audit Office analysis of Ministry of Defence information

# Part Two

## Affordability of the Equipment Plan

**2.1** To demonstrate that its Equipment Plan (the Plan) is affordable over 10 years, the Ministry of Defence (the Department) needs to make prudent and evidence-based assumptions about the future budget that will be available for equipment procurement and support and likely costs. It is also crucial that the Department makes sensible assumptions about the pressures on the other defence budgets which affect the Plan's affordability.

**2.2** This part examines the assumptions the Department has made which underpin its assessment about the affordability of the 2021–2031 Plan, in particular looking at how the assumptions take account of the key risks to affordability, specifically:

- budget assumptions;
- cost estimates;
- efficiencies and cost reduction targets;
- managing underspend;
- completeness of the Plan; and
- managing pressures from defence spending in other areas.

### Budget assumptions

**2.3** The Department's overall budget is made up of the Equipment Plan, the Infrastructure Plan and operating costs (including workforce, training and other costs).[10] Head Office generally delegates responsibility for managing the budgets to the Top Level Budgets (TLBs), although it retains direct responsibility for some spending.[11] As with all departments, HM Treasury, within an overall budget amount, sets the Department separate annual budgets for resource (day-to-day) spending and capital (investment) spending. As in previous years (and as agreed with HM Treasury), the Department assumes it will receive a 0.5% above inflation increase to the defence-wide budget each year after the current Spending Review (SR) period ends in 2024-25.

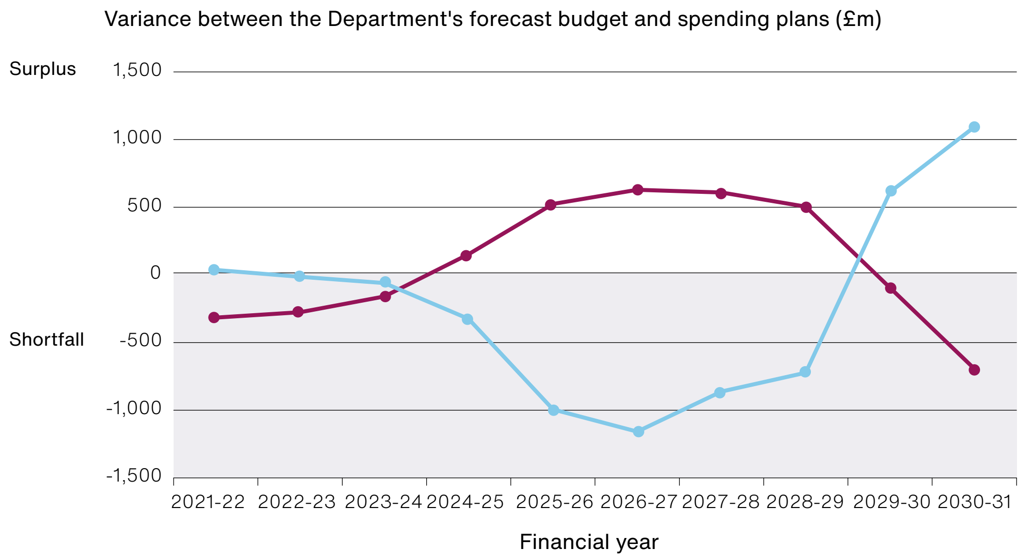
10 The Department refers to these operating costs internally as the 'Top Level Budget Plan'
11 There are six TLBs with responsibility for Equipment Plan spending: the four Front Line Commands (Navy, Army, Air and UK Strategic Commands), the Defence Nuclear Organisation and Strategic Programmes.

**2.4** Because of this assumption and the large increase in the Department's budget over the current SR period, the annual budgets from 2025-26 onwards are expected to be much larger than assumed in last year's Plan. The Department has also assumed its capital budget will grow by more than its resource budget (which it expects to remain flat in real terms). However, in spite of these assumptions, its budget allocations show that it will exceed the available capital budget in seven out of 10 years and by a total of £4.1 billion in these years (see **Figure 4**). Its resource spending will exceed budget in five of the 10 years (by £1.5 billion in these years). The Department believes that further savings will be made over the years so that budget and costs will eventually align. The projected surpluses between 2024-25 and 2028-29 depend on meeting stretching workforce reduction targets (see paragraphs 2.29 and 2.30). The shortfalls are, however, smaller than in 2020, particularly in the early years of the Plan (in 2020, total planned spending exceeded the budget by £4.1 billion in the first five years).

## Figure 4

Forecast shortfalls in the overall defence budget between 2021-22 and 2030-31

**Under current plans the Ministry of Defence (the Department) is on course to breach its budget for resource spending in five years out of 10, and its capital budget in seven out of 10**




| | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2030-31 |
|---|---|---|---|---|---|---|---|---|---|---|
| Resource (day-to-day) spending (£m) | (315) | (276) | (160) | 153 | 525 | 629 | 609 | 505 | (96) | (694) |
| Capital spending (£m) | 36 | (13) | (60) | (325) | (995) | (1,159) | (862) | (723) | 614 | 1,094 |

Notes

1 The spending and budget data reflect the position as at May 2021. Since then, forecast inflation is higher. The Department, like all employers, will also have to pay higher National Insurance contributions from April 2022 than it assumed in May 2021, due to the increase in National Insurance contributions that was announced in September 2021. This figure does not show the impact of these cost increases, or of the additional resource budget provided by HM Treasury in October 2021, which may offset these cost increases.

2 Information in this figure assumes that the Department will use £5.9 billion of Equipment Plan contingency, and £4.3 billion of wider contingency not yet allocated to particular areas of spending.

3 In this figure, positive values indicate a surplus.

Source: National Audit Office analysis of Ministry of Defence information

**2.5** The Department has apportioned budget shortfalls and surpluses to the three departmental plans in proportion to their relative size. It has taken a different approach to apportion budget shortfalls to individual plans in each of the past three years (see paragraph 3.5). The net effect of these adjustments is that the Equipment Plan's budget is reduced by £1.9 billion. This effectively reduces the contingency notionally earmarked for the Plan from £5.9 billion (see paragraph 1.13) to £4.1 billion.[12]

## Cost estimates

**2.6** As we have recognised in our previous Equipment Plan reports, the challenges in forecasting costs on complex programmes are considerable. They include the need to reflect the best available information while making prudent assumptions about future uncertainty. The Department's Cost Assurance and Analysis Service (CAAS) provides independent assurance on many of the forecasts made.

### Financial risks to delivering projects

**2.7** Some project teams have identified a range of costs not currently included in the Plan which could result in £3.0 billion of financial risk if the Department fails to make changes to time, cost or performance. The Department plans to keep the balance between cost, capability and the delivery timetable under review as these programmes develop full business cases. For example, the budget provided for the Future Combat Air System (FCAS) is considerably less than the project team's estimate of the cost needed over the next 10 years to deliver current plans, based on the assumptions in its 2021 Outline Business Case (**Figure 5**). The affordability of the Department's plans will depend on the extent it is able to share development costs with international partners. Similarly, early business cases for the New Medium Helicopter and Future Commando Force programmes show that these programmes are currently underfunded. If the Department fails to take action in future to match budgets with planned capability, it risks repeating the same mistakes made in previous Defence Reviews, namely that plans are "over-ambitious and under-funded, leaving forces overstretched and under-equipped".[13]

12 This is the contingency which the Department is able to allocate among the TLBs as it sees fit. The TLBs collectively forecast budget surpluses totalling £294 million over 10 years meaning there is £4.3 billion total 'headroom' in the Plan.

13 Secretary of State's Foreword, Defence in a Competitive Age, CP 411, March 2021, available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974661/CP411_-Defence_Command_Plan.pdf

**Figure 5**
The Future Combat Air System (FCAS)

FCAS is a UK-led international programme to replace the capability provided by the Typhoon jet from the mid-2030s. It will ultimately be capable of air-to-air and ground-attack missions, potentially with a mix of crewed and uncrewed aircraft. The programme team recognises this is a “highly aggressive” timetable and will require the Ministry of Defence (the Department) and industry to work in a fundamentally different way to design, test and build the aircraft.

FCAS is the largest non-nuclear project in the Department’s Equipment Plan, with a budget of £8.65 billion over 10 years to design the aircraft at the heart of the ‘system’ (in addition to existing funding to develop related technology). However, based on existing assumptions about schedule, capability and international partners, the programme’s initial cost modelling, indicated the UK would need to spend between £10 billion and £17 billion over the period 2021 to 2031, suggesting it could be underfunded by as much as £8.35 billion.

The project team submitted a bid of £1.65 billion for 2021-22 to 2024-25 to the 2020 Spending Review process which was already lower than it had concluded was needed, based on the understanding at the time of the delivery timetable and expected number of international partners. However, following the Spending Review, the Department set a budget of £1.2 billion. This may mean that technology will be less mature than planned at key decision points, which in turn could significantly increase the capability risks to the programme. It would also limit the ability of the Department and industry to transform their ways of working through adopting modern design techniques: without this transformation the costs in later years will be much higher.

In March 2021, just after the project team submitted its Outline Business Case, the Department set a budget of a further £7.45 billion for the period April 2026 to March 2031. This was considerably less than the cost estimate based on the assumptions made at the time and set out in the Outline Business Case.

The programme’s scope and costs are highly dependent on the number of international partners who participate in the programme in future and the level of financial contribution they make. The project team has undertaken to review options for delivering the programme in light of the reduced funding ahead of the next business case, which is expected in 2024.

Source: National Audit Office analysis of Ministry of Defence information

**2.8** The Department also needs to decide how to balance the cost of existing projects against the capabilities they deliver. The relevant TLBs’ ‘most likely’ option to keep the Meteor missile in service would cost £790 million more than is included in the Plan. It will have to decide whether to prioritise this option over other capabilities. The costs included for the Morpheus programme, which provides digital communication systems for the Army, are £409 million less than the estimate produced by the project team’s cost model over the six years from 2025-26.[14] These projects are also developing Full Business Cases. We have not carried out a systematic review of whether the costs included in the Plan match project teams’ cost forecasts: the costs included for other projects may also imply that they need to revise their assumptions about scope.

14 The Department’s Cost Assurance and Analysis Service included this difference in its assessment of the risk of cost growth across the Equipment Plan (see paragraph 2.10).

## Risk of further cost increase in projects

**2.9** Reflecting the Integrated Review's emphasis on new investments, this year the Plan includes a higher proportion of projects with less mature costs, which have not been formally approved. The cost of these projects is £36.9 billion, compared with £18.4 billion in the 2020 Plan. Less mature projects are known to be particularly at risk of cost growth, since the scope may change, and cost estimators make more judgements without supporting evidence. We found that some of the cost assumptions are relatively imprecise, both in terms of the total cost and the breakdown between day-to-day and capital budgets.

**2.10** CAAS examined 80 projects this year, making up around 58% of the Plan's cost by value. As in previous years, CAAS deliberately chose a high proportion of less mature and other higher-risk projects to examine. It concluded that these projects were likely to cost £7.6 billion more than the costs included in the Plan.[15] This potential cost growth would be considerably more than the £4.3 billion total headroom available for the Plan over 10 years (see paragraph 1.13). CAAS found that nuclear projects were at particular risk of cost growth. As well as Dreadnought, which we discuss in paragraphs 2.13 to 2.15, it reviewed several projects linked to building and maintaining nuclear warheads and concluded they were likely to cost £1.8 billion more than the amount included in the Plan.[16] CAAS also expects the cost of building Astute class submarines to be £255 million more than the costs included in the Plan, and other nuclear projects to cost £117 million more.

**2.11** The Plan includes £1.9 billion to cover the costs of the Ajax armoured vehicle programme, which faces a number of issues that have prevented the vehicles entering service. The Department believes that the contractor will bear the costs of fixing the problems. In any event, the Department's decision to suspend payments to the main contractor will put additional pressure on the Equipment Plan in later years (see paragraph 2.20). We are carrying out a separate study on this programme, which we will publish shortly.

**2.12** Since CAAS carried out its work for this year's Plan, inflation has risen. There is therefore a risk that project costs will grow by more than forecast. In October 2021, HM Treasury made available £700 million to the Department each year from 2022-23 in part to recognise this change. These funds are earmarked for day-to-day rather than capital costs so will not compensate for any unexpected inflationary rises in capital costs (which make up the majority of the Equipment Plan).

15 The Department's Equipment Plan report separates CAAS's assessment of likely cost growth on the Dreadnought programme (£2.6 billion) from other anticipated cost growth (£4.9 billion) to reflect the different governance arrangements for Dreadnought (see paragraphs 2.13–2.15).

16 One of these programmes was MENSA, which we covered in our 2020 report on the Department's nuclear infrastructure (Comptroller and Auditor General, Managing infrastructure projects on nuclear regulated sites, Session 2019–2021 HC 19, National Audit Office, January 2020).

### The Dreadnought programme

**2.13** The Dreadnought programme to build four new submarines to maintain the UK's nuclear deterrent is the largest programme in the Equipment Plan, with £19.2 billion planned spending over the next 10 years. The size of the programme means a proportionately small increase could have a significant impact on the Plan's affordability. In 2015, the government announced that the Dreadnought submarines were expected to cost £31 billion to build, with a further £10 billion "contingency" available if needed. The Department now expects costs will be higher than £31 billion, partly because of increasing maturity of the estimate, and partly because of challenges in cost estimation and contractor management.

**2.14** As of March 2021, the Department had already spent £1.5 billion more than the 2015 estimate. It has also assumed that it will receive a further £1.3 billion from HM Treasury by 2024-25 specifically for Dreadnought and a related programme. This allows the Department to spend in line with the Dreadnought programme's September 2020 cost estimate. Although the Department's 2020 Spending Review settlement describes this as a "ceiling", HM Treasury has since accepted that if Dreadnought costs continue to increase, there could be some circumstances where it would agree to increase the Department's budget. However, HM Treasury has not clearly defined the contingency purpose nor when the Department can expect to receive additional budget. This means that the Department has less certainty about the funds available for the Dreadnought programme in future years. HM Treasury has told us that it is reviewing arrangements.

**2.15** The Equipment Plan includes the costs as estimated in September 2020 (the most recent estimate available at the Plan's reporting date). This year CAAS developed an independent assessment of the likely cost of the two largest projects within the Dreadnought programme. In CAAS's view, these are likely to cost £2.6 billion more than the amount included in the Plan. Of this, £2.3 billion falls between 2021-22 and 2024-25.

## Efficiencies and Planned Cost Reductions

### Deliverability of cost reduction targets

**2.16** The Plan assumes that £2.8 billion of low-maturity efficiencies and £7.0 billion of other cost reductions will be achieved over the next 10 years. It defines efficiencies as cost reductions which will not lead to a reduction in outputs or capabilities. In terms of the efficiencies in previous years, we have often expressed our concerns about the over-optimism of the Department's assumptions, especially where delivery plans are not yet firm. The 2021 Plan is less dependent on low-maturity efficiencies than the 2020 Plan (which assumed that TLBs would find £3.7 billion of these efficiencies).

**2.17** Despite this, this year the Department has set the TLBs new cost reduction targets and reduced their budgets accordingly. The total of £7 billion 'Planned Cost Reductions' is £4.3 billion higher than in the 2020–2030 Plan (**Figure 6**). The TLBs do not yet have plans to deliver £3.9 billion of these (£1.5 billion more than in the 2020–2030 Plan); they need to find further savings almost equivalent to the total value of the Integrated Review's 'disinvestment' decisions. The TLBs will need to find £2.6 billion of these savings in the first four years. This is the period over which they can be more certain about their priorities and where they have less flexibility (with more spending fixed by contracts which cannot easily be amended). The pressure is not evenly distributed across the TLBs, with Navy and Air Commands needing to reduce their costs by much more than the other TLBs (see **Figure 7** on page 30). Air Command also has the least flexibility as it is committed to 62% of its spending over the next 10 years, almost twice as high as any other TLB. It believes that it will need to reduce flying activity considerably, which will have consequences for aviators' skills.

**2.18** In its central assessment of the Plan's affordability, the Department assumed all efficiencies and Planned Cost Reductions will be achieved in full, including those which the TLBs do not have plans to deliver. In its 'worst-case' affordability scenario it still assumes the TLBs will achieve most of the savings, including 76% with no plans in place (meaning they would fall short by just £935 million). TLBs also still need to develop plans to reduce their non-Equipment Plan spending by at least £3.7 billion in addition to the substantial workforce reductions and other savings also required by the Spending Review settlement (see paragraphs 2.29 and 2.30).

**2.19** In addition to the above efficiency assumptions, the Plan also assumes the full delivery of £4 billion of savings by 2030 as a result of efficiency improvements achieved by the Defence Transformation Programme, which covers activities across the Department (see paragraph 3.22). However, the Department's latest assessment is that the Programme will deliver £3.3 billion of savings, although this has not been independently verified, and the Cost Assurance and Analysis Service reported low confidence in the forecast.

## Managing underspending

**2.20** At November 2021, the Department expected to spend £1.1 billion less on equipment in 2021-22 than it assumed when assessing the Plan's affordability. The Ajax programme was a key contributor to the underspend, as the Department has not paid the main contractor since December 2020 (see paragraph 2.11). This means that, since underspent equipment costs (including Ajax costs) are still likely to be incurred, the budget pressure in later years would have increased if the Department had not taken action. It has plans to bring forward £111 million of equipment spending from future years and expects to agree with HM Treasury that it can transfer some, but not all of the likely underspend to a future year. The Department is also currently forecasting an underspend of £374 million against the amount HM Treasury requires it to spend on Research and Development (R&D) in 2023-24. If it does not spend this, its capital budget will be reduced accordingly.

## Figure 6

National Audit Office (NAO) assessment of the Planned Cost Reductions included in the Ministry of Defence (the Department's) Equipment Plan 2021–2031

**The majority of the 'Planned Cost Reductions' which the Department's assessment of affordability has assumed will be achieved are not supported by delivery plans**

| NAO assessment of the Department's Planned Cost Reduction adjustments | Value in the Spending Review period (2021-22 to 2024-25) | Value in later years (2025-26 to 2030-31) | Total value of adjustments in 2021–2031 Equipment Plan | Total value in 2020–2030 Equipment Plan (prior year position) |
|---|---|---|---|---|
| | (£m) | (£m) | (£m) | (£m) |
| Not supported by delivery plans[1] | 2,559 | 1,321 | 3,880 | 969 |
| The relevant Top Level Budget[2] has identified the project where the saving will be found | 1,637 | 526 | 2,163[3] | 222 |
| The relevant Top Level Budget[2] has identified the area of Equipment Plan spending it will reduce, but not the specific projects[4] | 535 | (241) | 294 | 1,401 |
| Assumption by UK Strategic Command that some spend will "fade" without further management action | 287 | 230 | 517 | Not applicable (categorised as 'Realism' in the 2020 – 2030 Plan) |
| Anticipated extra budget (claim on Special Reserve for the cost of military operations) | 78 | 117 | 195 | 160 |
| **Total** | **5,096** | **1,953** | **7,049** | **2,752** |

Notes

1 The Top Level Budgets did not have plans to achieve these reductions when the Department's planning round ended in May 2021. We enquired about progress during our fieldwork and were told that plans were still being developed.

2 The Top Level Budgets with Equipment Plan spending are the four Front Line Commands (Army, Navy, Air, UK Strategic Command), the Defence Nuclear Organisation and Strategic Programmes.

3 The value is much higher in the 2021-2031 Plan because the Integrated Review, which reported in March 2021, took a number of decisions to reduce costs (see Figure 2). The timing of these decisions means many of the identified savings are not yet reflected in individual programmes' cost estimates.

4 The majority of these savings will be made by UK Strategic Command, which plans to defer planned spending on activities such as Digital Transformation from the period covered by the Spending Review settlement into later years.

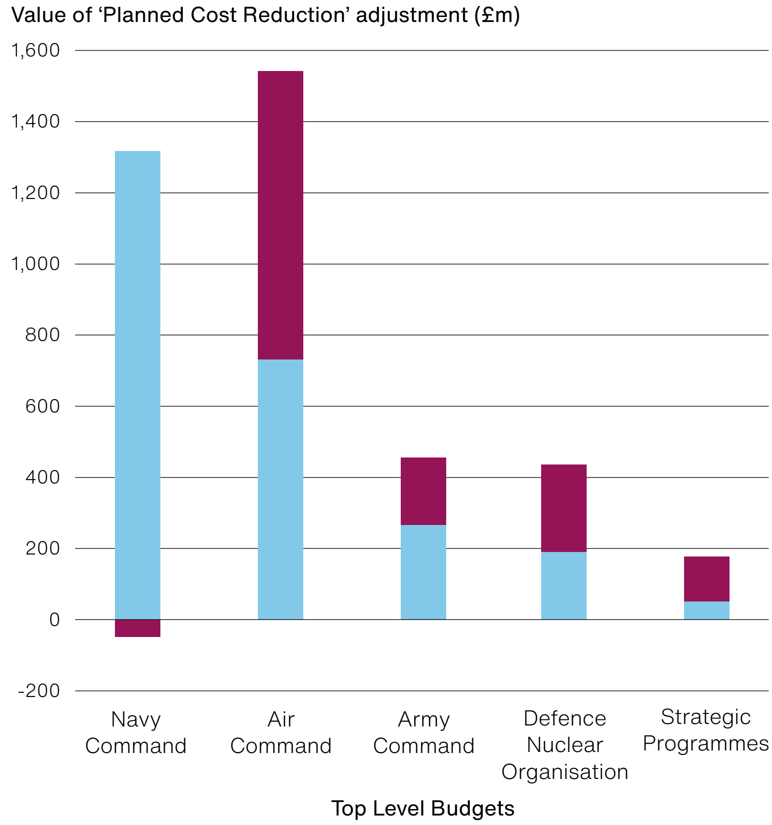
5 Figures may not sum due to rounding.

Source: National Audit Office analysis of Ministry of Defence information

## Figure 7

Planned Cost Reductions within the 2021 – 2031 Equipment Plan without a clear delivery plan

**Navy Command and Air Command have made much more optimistic assumptions about their ability to reduce costs than the other Top Level Budgets – particularly in the first four years of the Equipment Plan**




| | Navy Command | Air Command | Army Command | Defence Nuclear Organisation | Strategic Programmes |
|---|---|---|---|---|---|
| Spending Review period (2021-22 to 2024-25) (£m) | 1,317 | 732 | 267 | 190 | 52 |
| Later years (2025-26 to 2030-31) (£m) | (48) | 810 | 188 | 245 | 126 |

Note

1 The adjustments Navy Command has made in later years net to -£48 million. In this period, Navy Command has a surplus of £1,170 million against its capital budget (CDEL) but needs to find £1,122 million savings against its resource budget (RDEL).

Source: National Audit Office analysis of Ministry of Defence information

**2.21** More widely, TLBs assume that in future years some equipment will not be introduced as quickly as planned. The TLBs then reduce their spending forecasts accordingly, with the adjustments known as 'realism'. We have been critical of the lack of evidence supporting these adjustments and expressed concerns that they were being used to make the Plan seem more affordable. This year total 'realism' in the Plan is £12 billion compared with £10 billion in the 2020 Plan (which is similar as a proportion of the estimated cost of projects). This year Air Command and UK Strategic Command have reduced the size of their 'realism' adjustments – meaning they expect more of their projects will proceed as planned. Navy Command used a more robust methodology, which led to a significant increase in 'realism' assumed.

**2.22** The Department accepts that it needs to improve its forecasting of whether spending will count against resource or capital budgets (as well as which type of spending is more likely to slip into later years). It lags behind other departments in this respect. Some of the Integrated Review decisions relied on crude assessments of whether spending would count against resource or capital budgets, and in what years the expenditure is likely to take place. This further limits the level of confidence we can have in the affordability of the Department's Equipment Plan at this point.

## Ability to develop future capabilities

### Addressing capability requirements

**2.23** We reported in our report on The Equipment Plan 2020–2030[17] that filling known and expected equipment capability gaps would cost at least £20 billion. This was based largely on the Department's Defence Capability Assessment Register (DCAR), which it usually compiles annually. The DCAR is based in turn on a set of scenarios linked to the tasks the armed forces are expected to prepare for, and which vary considerably in scale (from short, small-scale operations, up to a major war alongside NATO partners). This means that the DCAR is best used as a tool to measure the relative risk against different tasks or the change in risk over time.[18] The Department did not carry out a DCAR assessment this year. Instead, it undertook a less formal review in February 2021, which concluded that the Integrated Review investment decisions will reduce the capability risk against most tasks.

**2.24** More specifically, the Plan does not include the procurement and support costs of the new 'National Flagship', which the government would like to have in service by late 2025. The government made its announcement in May, after the cut-off point for inclusion in the Plan. The Department's early assessment suggests a fixed price contract to design and build the ship would mean the project would cost around £250 million (including other project costs but excluding a provision for risk).

**2.25** The Department has set aside £1.4 billion to be spent on a portfolio of space programmes. This money sits outside the Equipment Plan, as the Department has not decided how much of the money will be spent on equipment, infrastructure or other costs. In future years it is likely that some of this £1.4 billion budget will be transferred to the Equipment Plan. While this would increase the amount spent on the Equipment Plan, it would not affect the Plan's affordability as Plan costs and budgets would both increase.

17 Comptroller and Auditor General, *The Equipment Plan 2020–2030*, Session 2019–2021 HC 1037, National Audit Office, January 2021.

18 When assessing future capability risk, TLBs take in to account the equipment they expect to acquire and the equipment they expect likely adversaries to develop.

### Research and Development (R&D)

**2.26** The Integrated Review concluded that the ability to advance and exploit science and technology is increasingly important for defence and security. The Department committed to spend at least £6.6 billion on R&D over the four years from 2021-22 to 2024-25 and expects to spend £7.4 billion over the period. The Department believes this is an increase over previous periods, but it is not possible to validate this claim as the data for earlier years were not compiled on a comparable basis. In the following six years the Department's current forecast shows that R&D spending will be significantly lower. However, it has told us that it expects this to increase in the future as it believes projects are currently under-reporting how much of their future spending will qualify as R&D.

**2.27** The Department has also set aside £1.05 billion from 2026-27 to 2030-31 to exploit research to develop usable military capabilities.[19] While this is more than in the period following the 2015 Strategic Defence and Security Review, it is still only 0.4% of the Plan's total budget, although the Department believes the boundary between R&D and exploitation is blurred. There is, therefore, a risk that if it does not allocate more funding, the Department will not be able to take full advantage of successes in R&D work. For example, the Department has not funded plans to develop an electronic warfare variant of the SPEAR 3 missile, even though it has judged the armed forces should have the capability.

## Managing pressures from defence spending in other areas

**2.28** The Department has made a number of assumptions about how much it will spend on its workforce (and other operating costs) and on infrastructure over 10 years. If it spends more than it currently expects to on these areas, it may have to reduce spending on equipment procurement and support. The Department does have £4.3 billion of contingency (above that ring-fenced for the Equipment Plan), however only £1.3 billion of this is available over the Spending Review period.

### Workforce reductions

**2.29** The Spending Review settlement expects the Department to make substantial reductions to the size of its workforce over the next decade:

- The Integrated Review announced that the Army's target strength would be reduced from 82,000 to 72,500 by 2024-25.[20]
- The other TLBs will need to make savings equivalent to reducing their trained military workforce by 6,350 (and their untrained workforce by 1,450) by 2030.

19 The Department's report refers to £4.1 billion available for further Research and Development (R&D) and exploitation of earlier R&D. It has provisionally allocated £2.1 billion for further R&D (which forms part of the forecast we refer to in paragraph 2.26), £1.05 billion for 'exploitation' and £900 million for other 'innovation funding'. It has told us that it intends to keep the balance under review.

20 This figure does not include some of the soldiers who will be working on Integrated Review priorities such as the National Cyber Force. The Department's spending plans assume there will be around 300 of these soldiers in 2024-25 and around 500 in 2030-31.

- The Department also needs to make a 10% further reduction in the cost of the civilian workforce by 2024-25.

The Department struggled to achieve previous top-down reductions and is still working on detailed plans to achieve these new cuts. This includes giving TLBs freedom to decide on the mix between military and civilian personnel they would like in the future. The Department does not plan large-scale redundancy programmes. The targets are already harder than expected as the uncertain economic outlook of the past two years (caused by the COVID-19 pandemic) has meant that fewer personnel have left the armed forces than normal.

**2.30** In addition to the above reductions, the Department's spending plans currently assume further workforce savings of £2.5 billion over the 10 years to March 2031. The Department has not yet announced how it will deliver these savings or required the TLBs to reflect them in their plans.

## Pay growth assumptions

**2.31** Before October 2021, the Department's 10-year spending plans assumed that wages (for military and civilian personnel) would have very limited annual increases, especially for the years to 2024-25. In October 2021, HM Treasury agreed to increase the Department's budget for day-to-day spending by £700 million each year from 2022-23 due to higher forecast inflation and the increase in Employer National Insurance Contributions from April 2022. The Department expects to use some of this extra money to increase pay rates by more than assumed in 2022-23.

**2.32** However, the value of military and civilian pay is still likely to decline in real terms in each year until 2024-25. Even a relatively small change to the Department's assumptions about pay would have a significant impact on the affordability of its spending plans over 10 years. For example, an additional 1% pay rise in 2022-23 over and above what is planned would cost approximately £1.4 billion more over the following nine years.

## Infrastructure

**2.33** The physical condition of the Department's 'built estate' (which includes accommodation, offices, warehouses and other facilities, such as runways) has been declining for many years due to under-investment. Since 2009, the Department has generally only repaired assets when necessary for safety or legal reasons, even though this does not represent value for money over the long term. We reported in 2021 that approximately 30% of the built estate was below the standard which the Department considers acceptable. The Department plans to spend an additional £500 million on preventative maintenance over the Spending Review period, but this will not be enough to prevent further deterioration in the estate's condition.

# Part Three

## Improving the Plan

**3.1** We have repeatedly raised concerns about weaknesses in cost estimating and over-optimism about budget and cost assumptions since the Equipment Plan's (the Plan's) inception in 2012. As a result of these issues, financial pressures have built up on Top Level Budgets (TLBs) and risks to affordability have remained high. From 2017 to 2020 we concluded that the Plan was unaffordable. This year, as Part Two shows, even with the benefit of a multi-year settlement and a large increase in funding, the Plan faces serious affordability risks again.

**3.2** As HM Treasury only allows departments to exceed their budgets in any single year under very restricted conditions, the Ministry of Defence (the Department) has in-year spending control mechanisms in place to prevent this from happening. This means that in each year TLBs focus on in-year affordability, making short-term savings, stopping lower-priority work and increasing costs in future years, which will then have to be addressed through future efficiencies or cost reductions. The consequence of this is that equipment procurement is delayed or cancelled, often resulting in higher net costs. The specific consequences for equipment delivery include:

- the loss of capabilities, as funding is not included in later years of the Plan;
- a lack of funding to maintain or enhance existing capabilities; and
- reduced spending on support activities – such as replacing a programme of equipment updates with lower levels of maintenance, leading to degradation of equipment serviceability and availability.

We have found numerous examples for each category in our reports over the years (see Figure 9 on page 42).

**3.3** To break the pattern of poor cost estimation and over-optimistic assumptions, and consequently improve equipment delivery and value for money, the department needs to have in place arrangements and capabilities for both the production of its Plan as a document and its underlying management processes and capabilities, which have previously been absent or incomplete. This part examines recent improvements and remaining gaps in the key areas, in particular:

- the Plan's production both as a document and how underlying processes are managed, including how costs and budgets are treated and how well TLBs are incentivised to maximise long term value for money;
- whether financial skills are at a sufficient level to tackle the financial management challenges posed by the projects in the Plan; and
- the success of the Department's attempts to reform management areas underpinning equipment procurement and support, such as contract management and inter-dependencies, which are needed for the Plan to be both an accurate assessment of affordability and a source of assurance of long-term value for money.

## Producing the Plan

### Basis of preparation of the Department's Plan document

**3.4** To build up long-term credibility and to enable stakeholders to gauge progress over time, the Department's report on the Plan's costs and budgets needs to be prepared on a consistent basis both across TLBs and between years. The Department has not yet achieved this, although it has improved both the breadth and consistency of its reporting of costs and budgets incrementally since 2012, for example:

- the robustness of the cost models supporting the Equipment Support Plan has improved. In 2015, for the first time, the Department's report included an independent assessment by its Cost Assurance and Analysis Service covering the cost of the entire Equipment Plan (including support costs);
- in 2018, Head Office began to allocate budgets to TLBs based on forecast costs and financial risks, rather than rolling forward prior year budgets. It also attempted to quantify the affordability gap, which it had not recognised; and
- in 2019, Head Office issued guidance to TLBs to standardise their reporting and requested detailed management information to support their judgements to introduce a more evidence-based and consistent approach to making cost forecasts.

**3.5** But inconsistencies in the way the Department treats both budget and costs remain in some areas, which undermines comparability between both years and TLBs:

- **Budgets are prepared on different bases across years**:
  - The shortfall of the overall defence budget, which occurs every year, is apportioned by Head Office on different bases – in 2019 the full amount was apportioned to the Plan; in 2020, it was not apportioned at all; and in 2021 it has been apportioned across the Department's three plans in proportion to their relative spending.
  - Contingency is lower as a proportion of planned Equipment Plan spending over 10 years and the amount in individual years varies with no clear rationale.
  - In previous years, only one year of the Dreadnought contingency (which funds the forecast cost increases identified between 2015 and September 2020) has been included. In 2021, reflecting the new multi-year spending settlement with HM Treasury, four years' worth has been included.
- **Inconsistent treatment of costs**: each year the Department alters the scope and basis of some cost types. Examples include:
  - TLBs previously reported unresolved budget shortfalls separately, as a 'Variance to Budget' adjustment. The Department now requires TLBs to present plans to deliver their programme within the allocated budget. In practice this means they need to increase the size of their 'Planned Cost Reduction' adjustments where costs exceed the budget;
  - the level of budget set aside for projects with similar levels of uncertainty about future costs varies considerably between different projects; and
  - the basis for the 'affordability range' expressing the best-case and worst-case scenario changed for this year's Plan. In previous years, the worst-case scenario assumed that a certain proportion of efficiencies and realism would not be achieved, but this is not the case this year.

## The management of the processes underlying the Plan's production

**3.6** In line with the Departmental Operating Model (DOM), Head Office and TLBs rely heavily on each other both to draft the Plan document and agree the budgets and costs which underpin it:

- Head Office decides on overall strategic direction and the budgets to allocate to individual TLBs, while the latter are responsible for specifying their equipment requirements to meet their equipment objectives; and
- Head Office is responsible for keeping costs within the overall budget, while TLBs are responsible for generating accurate forecast costs and keeping their costs within their allocated budgets.

**3.7** Within this framework, Head Office employs a balance of mandation and encouragement to incentivise TLBs to provide accurate costs and stay within their budgets. For example, in previous years, it has directed TLBs to carry out savings exercises to reduce costs while at the same time helping them to run capability re-prioritisation exercises to reduce future commitments. This year it has not directed a savings exercise yet but has held back a small proportion of funds for a few projects (for example, F-35, A400M) to be released only when the relevant TLBs present robust plans.

**3.8** In practice the process to agree budgets and costs typically takes many months, involves lengthy negotiation, and results in both short-term cuts and high negative cost adjustments (see paragraph 3.12). This year's In-Year Management exercise to keep TLB's costs within their budgets for day-to-day spending for 2021-22 has not yet been resolved. After discussions with Head Office, TLBs agreed to implement short-term savings measures in an attempt to stay within budget, including reducing spending on recruitment and training exercises. Closing the gap still remains challenging, although the Department believes that the TLBs will be able to reduce their day-to-day spending sufficiently by year-end.

**3.9** Along with the In-Year Management exercise for current year budgets and costs, the Department uses the Annual Budgeting Cycle (ABC) exercise as the key mechanism to determine future years' budgets and costs, which are then used to populate the Plan. In autumn 2020, the Department carried out the latest in a series of recent reviews of the ABC process, which together have identified a number of serious issues, including:

- lack of transparency for TLBs of strategic priorities and decisions made in the Centre;
- lack of strategic planning with a focus on the current year to the detriment of later years;
- lack of clarity of how the ABC process works, its boundaries with other planning processes, and the roles / responsibilities of those involved; and
- that disconnects exist between the ABC process and other Departmental processes that drive portfolio affordability decision-making (for example, equipment approvals, decisions on efficiencies and decisions on 'acquisition pipelines').

**3.10** The 2020 review recommended a detailed plan of reform divided into short-, medium- and long-term phases, covering changes to culture, roles, systems and processes. However, the review concluded that the Department would not be able to deliver the full changes needed until 2024 at the earliest because of a lack of resources and the complex challenge of reform, including the need for new finance systems.

**3.11** Our best-practice guidance points to the need for any portfolio of programmes to ensure clear accountability, that roles and responsibilities are understood and that the right incentives are in place for an effective outcome. In the current arrangements, it is not clear how Head Office takes factors such as quality of cost information, historical delivery of efficiencies or forecasting accuracy into account when allocating budgets and future savings to TLBs, or how 'good' or 'bad' behaviours will be rewarded. Addressing these matters as part of the wider reforms of the ABC process should help in lessening both TLBs' resistance to cutting programmes and focusing on short-term affordability at the expense of long-term value for money.

## Use of negative cost adjustments

**3.12** Adjustments to reduce the Plan's costs make up around £22 billion or 9% of the Plan's cost before these adjustments (**Figure 8**). This amount is less than last year, which was £29 billion or 14% of the Plan. It is £1.4 billion more than in 2019 but 1% less in terms of overall Plan values. Because last year's Plan was restricted in its preparation, the 2019 Plan is arguably a better comparator.

## Figure 8

Budget shortfalls and adjustments used by the Top Level Budgets (TLBs) in the Equipment Plan 2021–2031 to reduce costs

**The TLBs' budgets now exceed Equipment Plan costs, but they have continued to make large adjustments to reduce the cost of their equipment projects**

| Adjustment | 2019–2029 Equipment Plan | 2020–2030 Equipment Plan | 2021–2031 Equipment Plan |
|---|---|---|---|
| | (£m) | (£m) | (£m) |
| Management Adjustment for Realism | | | |
| Reduction in costs to account for the likelihood that some projects will proceed more slowly than expected | (11,927) | (10,411) | (12,005) |
| Outstanding Efficiency Delivery | | | |
| These reductions are made up of potential efficiencies which project teams have lower confidence in achieving, and also include gaps to the efficiency targets set by the Ministry of Defence (the Department) | (4,711) | (3,494) | (2,832) |
| Planned Cost Reduction | | | |
| Only some of these reductions are associated with identified planned measures | (2,314)[3] | (2,752) | (7,049) |
| Unresolved shortfall | | | |
| The gap between TLBs' Equipment Plan budgets and costs at the end of the budget-setting process. The 2021-2031 figure is a surplus, not a shortfall | (327) | (12,563) | 294 |
| **Total cost reduction adjustments and shortfall** | **(19,279)** | **(29,220)** | **(21,592)** |
| Total as a proportion of costs before adjustments and shortfall | 10% | 14% | 9% |

Notes

1 The TLBs with Equipment Plan spending are the four Front Line Commands (Navy, Army, Air, UK Strategic Command), Strategic Programmes and the Defence Nuclear Organisation.

2 'Outstanding Efficiency Delivery' does not include those efficiency target savings which are deducted from project costs when the project teams have more confidence that they will be achieved. The Department's 2021 Equipment Plan report includes these higher-confidence efficiencies deducted at project level (£10.3 billion) in its total cost adjustment figure (£32.2 billion).

3 The 2019 Planned Cost Reductions figure reported here differs from the £5.7 billion figure reported by the Department in its 2019 Equipment Plan report because that figure contained lower maturity efficiency measures, which we report separately in this figure.

4 Some figures may not sum exactly due to rounding.

Source: National Audit Office analysis of Ministry of Defence information

**3.13** Our past audits have found the evidence to support these adjustments is often weak. This year, the evidence base for some of the adjustments, such as 'Realism' (for Navy Command and for digital projects in particular), has improved. 'Low confidence' efficiencies have also reduced from £4.7 billion in the 2019 Plan to £2.8 billion in the 2021 Plan.

**3.14** There are still some problems, however. Cost reductions to take account of projects proceeding more slowly than expected (Management Adjustment for Realism) have grown slightly since 2019. The ABC reviews (see paragraph 3.9) found that they are being driven by the failure of other processes such as independent project cost reviews to drive affordability. The 'Planned Cost Reduction' category has increased significantly this year too, and includes both planned and unplanned savings, but the distinction between them is unclear. In addition, many efficiencies are still immature and are not part of a wider change programme. They also can include unplanned reductions in spending, such as cuts in VAT, which do not involve improvements in working practices.

## Financial skills

**3.15** Increasing financial capability has been the subject of many National Audit Office (NAO) and Committee of Public Accounts recommendations in previous years' Plans, as it is so crucial to accurate cost forecasting and the wider financial management of the Plan and the programmes and projects within it. In July 2018, the Department launched a five-year Financial Functional Leadership (FFL) strategy, covering capability, systems, process and how financial services are delivered. More recently it has launched a strategy to change the operating model for finance, with the aim that finance staff will play a greater role in procurement and capability decision-making.

**3.16** Progress is being made in several areas. Independent financial scrutiny within the Department, for example by Cost Assurance and Analysis Service (CAAS), is increasing in experience and prominence. There is now a new evaluation team in Head Office supporting business case scrutiny. TLBs have also now agreed on the new financial operating model, with its implementation planned for 2022. Many senior staff have also attended a two-day financial skills course.

**3.17** However, financial capability remains lower overall than it needs to be. The number of staff with qualifications is still well below target, although qualifications at more senior levels have increased. The Department points to the effects of the COVID-19 pandemic and a lack of buy-in from some TLBs as contributory factors to delays. Key indicators and metrics show the existing gaps:

- At July 2021 there were 350 vacancies in financial jobs across the Department.
- HM Treasury's latest assessment of the Department's financial capability placed the Department in the third quartile of government departments. While noting that the Department had made improvements since 2019, especially in the flow of cost information, and that in-year forecasting was strong, it also noted inconsistent standards across TLBs.
- Since 2018 the Department has been seeking to increase the number of its financial staff with professional qualifications from 41% to 60%. As at 31 March 2021, the proportion of qualified finance staff had increased to just 43%, with three-quarters of these fully qualified and one quarter part-qualified. At the time nearly 400 were working towards qualifications. The Department intends to adopt a new financial career framework as part of the recently agreed future financial operating model.

## Wider reform management areas underpinning equipment procurement and support

**3.18** The robustness of the assumptions underpinning the Plan's affordability depends on its many projects being well managed. This involves each having effective contract management and the right delivery skills, and where they are part of a wider programme, well-managed interdependencies and infrastructure. Weaknesses in these areas can directly affect the Plan's affordability and the value for money of its projects (see **Figure 9** overleaf).

## Figure 9

The impact of wider programme and project management weaknesses on the Equipment Plan 2021-2031: nuclear projects

**We have previously identified that the Ministry of Defence (the Department) has followed practices and taken decisions about nuclear projects which have adversely affected long-term affordability**

To support the government's policy of submarine-based nuclear deterrence, the Department manages a network of programmes, equipment, and people, often referred to as the Nuclear Enterprise. Within this, there are a number of large projects which are included in the Equipment Plan (the Plan) amounting to £60 billion, or more than one quarter of its value.

The Department has found forecasting the costs of the complex and large-scale nuclear projects very challenging. The uncertainty is reflected in its use of the 70th percentile in its forecasting exercises. In the last year alone, its 10-year forecast of nuclear project costs in the Plan has increased by £16 billion for several reasons including unexpected cost growth. In its review of the Plan this year, the Cost Analysis and Assurance Service concluded that the Department had under-forecast nuclear project costs by £4.8 billion (see paragraphs 2.10 and 2.15).

Our three audits on the Nuclear Enterprise carried out between 2018 and 2020 showed that management decisions and other weaknesses contributed to cost uncertainty. The National Audit Office has not examined management changes the Department may have taken to address issues since we completed our audits.

- **Infrastructure management**
  Construction started before requirements or designs were clear, leading to unexpected costs of £650 million across a number of sites.
- **Contract management**
  Delays in identifying problems such as a lack of poor sub-contractor performance and management led to an unexpected cost increase of £352 million. Further delays in the defueling facility project because of commercial and technical issues led to an unexpected £100 million increase.
- **Managing interdependencies**
  To extract small savings the Department has created expensive delays in other areas. For example: in 2016, to save £19 million, the Department delayed upgrading the infrastructure needed for defueling submarines prior to dismantling, which led to higher costs overall. Delays to the production and maintenance of Astute submarines, meant extending the lives of Trafalgar-class submarines, leading to cost increases and higher operational risks. Delays to building Dreadnought-class submarines have led to an estimated £400 million additional costs to extend the lives of Vanguard-class submarines.
- **Skill gaps**
  The Nuclear Enterprise suffers from a series of skill gaps in key areas, not least contract management, commercial and project management, and technical expertise, for example around design and nuclear regulation. We found that these gaps were at the root of many of the problems and mistakes we identified.

Source: National Audit Office analysis of Ministry of Defence information; Comptroller and Auditor General, *The Defence Nuclear Enterprise: a landscape review*, Session 2017–2019, HC1003, National Audit Office, May 2018; Comptroller and Auditor General, *Investigation into submarine defueling and dismantling*, Session 2017–2019, HC2101, April 2019; Comptroller and Auditor General, *Managing infrastructure projects on nuclear-regulated sites*, Session 2019-20, HC19, January 2020

## The limited success of the Department's reform programmes

**3.19** It is 10 years since Lord Levene's wide-ranging independent review of the Department concluded that its management and organisation needed fundamental reform, including recommending a change to its operating model to establish the principle of delegation to TLBs. The 2011 Defence Reform Programme (DRP), which followed the review, contained at least 15 projects relevant to the Plan, including implementing a new framework to improve financial and capability management to prevent funding shortfalls, and a business improvement and behaviours programme to counter a culture of over-optimism.

**3.20** However, change has been difficult to achieve. By 2015 the Department recognised the DRP was not going as well as expected, and the Strategic Defence and Security Review that year promised a boost to reform activity over the following five years. But both our value for money audits and Parliamentary scrutiny before and since the 2015 review have shown that the Department's efforts at reform have had limited success. The chair of the Committee of Public Accounts (the Committee) noted in her 2021 annual report that it was repeatedly highlighting "issues about cost overruns and project management by the Department. Time and time again we see that decisions are delayed, causing more problems later".[21]

**3.21** The Committee has long been concerned that the problem is cultural, and that the Department is too complacent about value for money of equipment. Alongside the Committee's critical findings about the value for money of specific equipment procurement programmes, it is notable that only approximately half of the recommendations made by the NAO since 2015 to improve the Plan have been fully implemented.

## The Department's current reform work

**3.22** In 2018 the Department launched the Modernising Defence Programme (MDP), which is now being taken forward as the Defence Transformation Programme. Work is split into three categories – Digital, Support and Acquisition – and is being delivered across projects within the TLBs. A key element is to change both processes and culture within the Department. A July 2021 internal review of the programme found that improvements were needed on nine of its 12 projects, as well as its overall governance and coherence.

21 Committee of Public Accounts, *Fifth Annual Report of the Chair of the Committee of Public Accounts*, First Special Report of Session 2021 -22, HC 222, May 2021.

# Appendix One

## Our audit approach

**1** See **Figure 10**.

## Figure 10
Our audit approach

**The objective of government**

To buy and support the equipment that the Armed Forces require to meet their objectives, as set out in the Integrated Review of Security, Defence, Development and Foreign Policy 2021, in a way which is both affordable and value for money.

**How this will be achieved**

The Ministry of Defence (the Department) records its plans for equipment procurement and support over the next 10 years in the Equipment Plan (the Plan) and publishes a statement to Parliament on its forecast equipment costs and budget. The Plan should include all equipment projects needed for the Armed Forces to meet their objectives. The forecast costs of these projects should be realistic, complete and affordable within the defence budget.

**Our study**

This report examines the impact of the Spending Review 2020 and the Integrated Review 2021 on its 2021–2031 Equipment Plan. It also looks at whether, in light of the increased funding from the 2020 Spending Review, the Department's Plan is now a reliable guide to the affordability of its future equipment programme. It also examines whether the Department is on track to address the wider management and structural weaknesses which have undermined previous Plans.

| | | | |
|---|---|---|---|
| **Our evaluative criteria** | Does the Plan contain all the equipment the Department has identified that it needs through the Integrated Review process? | Is the Plan affordable, in that it contains sufficient budget and complete and accurate cost forecasts? | Does the Department have the right arrangements for a well-managed and sustainable Plan? |
| **Our evidence**<br>(see Appendix Two for details) | We examined whether all announced projects were included in the Plan, and how the Department assesses its capability risk. | We tested the assertions underlying the affordability assessment, including by studying the budgeting process and interviews with departmental staff across six of the Top Level Budgets and three delivery organisations.<br>Reviewed documents on how the budget is set and managed; forecast cost information, including efficiencies data; guidance and reporting and back catalogue of Equipment Plan and Committee of Public reports Accounts. | We examined the areas needed for a reliable plan, efficient preparation process, and well-managed programmes and projects. |

**Our conclusions**

The Department has taken difficult decisions to reduce spending. However, risks remain of over-optimistic assumptions about future budgets, costs and the likely achievement of savings targets. There is a real risk that, in spite of the additional funding it has received, the Department's ambition outstrips the resources available to it. Some key arrangements and capabilities which need to be in place for an affordable and cost-effective Plan are still absent. These include: a consistent basis of preparation and reporting, the right incentives in place, sufficient financial skills and a long-term approach to efficiencies and savings.

# Appendix Two

## Our evidence base

**1** We reached our conclusions based on our analysis of evidence collected during fieldwork between April and December 2021. Appendix One sets out our audit approach.

**2** We drew on findings from our previous reports, particularly on the Equipment Plan (the Plan), and on the Nuclear Enterprise for the case study in Part Three.

**3** We reviewed the November 2020 Ministry of Defence's (the Department's) spending settlement agreed with HM Treasury, covering the period from 2021-22 to 2024-25. We also reviewed the government's March 2021 Integrated Review of Security, Defence, Development and Foreign Policy (the Integrated Review), and the Department's Command Paper setting out the capabilities it intends to prioritise. To inform our assessment of the implication of these documents on Equipment Plan investments, disinvestments and deferrals, we:

- reviewed departmental papers, and reconciliations to document changes since the 2020 Equipment Plan, drawing on our previous evidence and knowledge; and
- interviewed departmental and HM Treasury officials.

**4** We reviewed spending on equipment and the key assumptions underpinning it. In considering the adequacy of the funding available, we:

- reviewed the Department's 10-year forecast of the defence budget, and the assumptions underpinning it;
- reviewed the basis for the Department's apportionment of the overall budget between the Equipment Plan and other areas of spending. This included consideration of assumptions underpinning other areas of spending;
- evaluated how the Department treated shortfalls between its anticipated budget and its spending plans (including how this has changed from previous years); and
- interviewed departmental and HM Treasury officials, including representatives of relevant departmental Top Level Budgets (TLBs), about the budget-setting process, and spending plans. We sought to understand how this year's process differed from previous years.

**5** To examine whether forecast costs within the Plan are realistic we:

- evaluated the detailed forecast cost data which feeds into the Equipment Plan, performing sense checks and tests of data integrity, and reviewed any significant movements;
- reviewed a number of project business cases submitted in 2021 and identified projects where the costs included in the Plan differed from the project teams' assessment of the most likely cost;
- interviewed officials responsible for delivering the Future Combat Air System and New Style of IT (Deployed), as examples of projects facing particular budget challenges; and
- discussed the report prepared by the Department's Cost Assurance and Analysis Service (CAAS) with its authors, which provides an independent estimate of the cost of 80 Equipment Plan projects (covering 58% of the Plan by value).

**6** To assess the Department's assumptions about its ability to reduce costs, we:

- reviewed the Department's process for setting the TLBs cost reduction targets;
- reviewed plans to deliver 'Planned Cost Reductions', and how this varies between the TLBs;
- drew on findings of previous NAO reports on the Department's management of the military and civilian workforce; and
- reviewed the Department's own assessment of the assurance arrangements it has in place to validate savings from transformation initiatives.

**7** To assess the Equipment Plan's underlying processes and also the adequacy of the Equipment Plan document, we:

- drew on knowledge obtained from our previous Equipment Plan and wider Departmental audits;
- drew on the NAO's best-practice toolkits on managing portfolios and accountability;
- reviewed management information the Department produced to monitor its 2021-22 spending, and also the minutes of departmental committees which discussed it;
- reviewed departmental audits of its budgeting processes; and
- evaluated data on financial capability and skills.

This report has been printed on Pro Digital Silk and contains material sourced from responsibly managed and sustainable forests certified in accordance with the FSC (Forest Stewardship Council).

The wood pulp is totally recyclable and acid-free. Our printers also have full ISO 14001 environmental accreditation, which ensures that they have effective procedures in place to manage waste and practices that may affect the environment.

National Audit Office

Design and Production by NAO Communications Team
DP Ref: 009286

£10.00

ISBN 978-1-78604-414-3