National Audit Office

Report
by the Comptroller
and Auditor General

The Nuclear Decommissioning Authority

Progress report: Terminating the Magnox contract

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The Nuclear Decommissioning Authority

Progress report: Terminating the Magnox contract

Report by the Comptroller and Auditor General

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This report examines the Nuclear Decommissioning Authority's (NDA's) management of the renegotiated contract in place with Cavendish Fluor Partnership (CFP) during the notice period (1 September 2017 to 31 August 2019) and assesses the NDA's progress against the risks highlighted in previous reviews by the National Audit Office and the Committee of Public Accounts.

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Contents

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What this report is about

Background

1 In 2005, the Nuclear Decommissioning Authority (NDA) was established as a non-departmental public body under the Energy Act 2004. It is an arms'-length body of the Department for Business, Energy & Industrial Strategy (the Department), and it is responsible for operating, decommissioning and cleaning up 17 nuclear power station and research sites in the UK.

2 Between 2012 and 2014, the NDA ran a competitive procurement exercise for a parent company to manage the decommissioning of two nuclear research sites and 10 Magnox sites. The latter comprise power stations that were at, or nearing, the end of their operational life. The parent company would provide additional resources and expertise while managing a contractor – Magnox Ltd – which was responsible for carrying out the required work to decommission the sites. With an estimated value of up to £6.2 billion for the decommissioning work, the 'Magnox contract' was among the largest by value put out to tender by HM Government at that time.

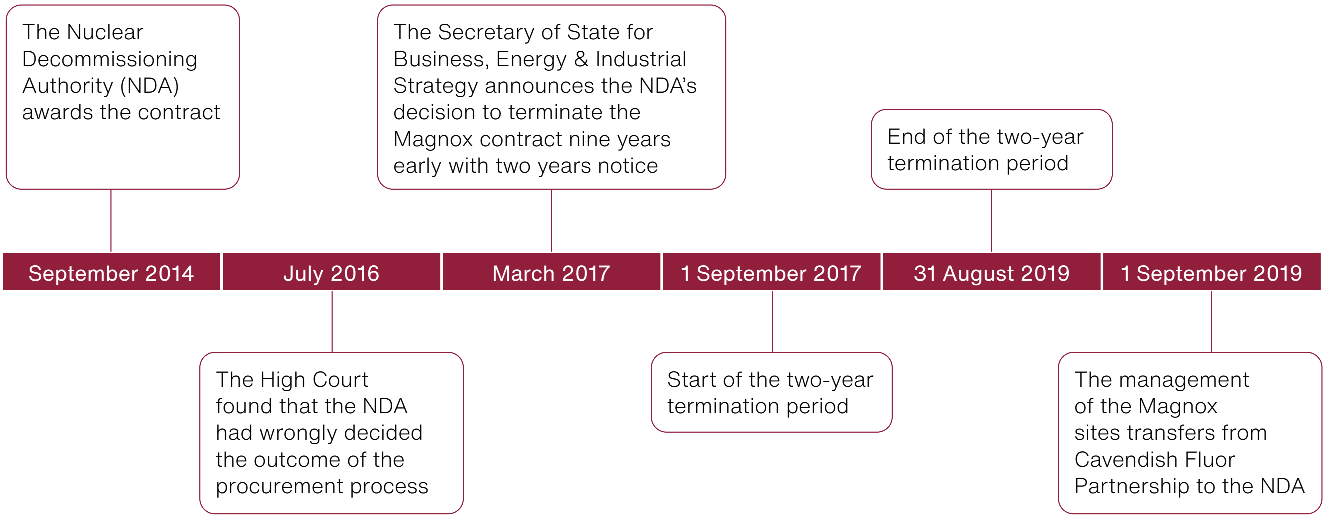
3 In September 2014, the NDA awarded the 14-year Magnox contract to Cavendish Fluor Partnership (CFP). In July 2016, the High Court ruled that the NDA had wrongly decided the outcome of the procurement process. In March 2017, the Secretary of State for Business, Energy & Industrial Strategy announced that the NDA had agreed settlements totalling £97.3 million with the bidder that brought the legal claims against the NDA. He also announced that the NDA had decided, based on legal advice, to terminate the contract with CFP nine years early due to a "significant mismatch" between the work specified in the tendered contract and the work that needed to be done.

4 The NDA therefore re-negotiated the contract with CFP in the summer of 2017 to cover the five years from the contract's start in September 2014 to 31 August 2019, including a two-year notice period to enable decommissioning work to continue on the Magnox sites while the NDA made preparations to convert Magnox Ltd into a wholly-owned subsidiary of the NDA. The management of the Magnox sites and ownership of Magnox Ltd transferred from CFP to the NDA on 1 September 2019 (**Figure 1**).

Figure 1

Timeline of key events relating to the procurement and termination of the Magnox contract

In 2014 the Nuclear Decommissioning Authority (NDA) awarded a contract for the delivery of decommissioning works to Cavendish Fluor Partnership (CFP). This contract was subsequently terminated. Management of the Magnox sites reverted to NDA on 1 September 2019



Note

1 The Magnox contract was to manage the decommissioning of two nuclear research sites and 10 nuclear power stations.

Source: National Audit Office summary of key events relating to the procurement and termination of the Magnox contract

The NAO and Committee of Public Accounts's previous coverage of the Magnox contract

5 In October 2017 we reported that the failed Magnox contract had cost the taxpayer more than £122 million by the time it was announced that it was to be terminated.[1] These costs related to the settlement of legal claims with unsuccessful bidders, the cost of legal and external advice provided to the NDA, and the time spent by NDA staff on, for example, the competition, litigation and contract termination. We also found that the NDA's poor understanding of what was happening on the sites had contributed to serious problems after it awarded the contract to CFP in 2014, with its assumptions about the work required proving to be inaccurate. We concluded that in these circumstances its use of a target-cost contract, which would require a good understanding of the scope of the work, appeared inappropriate. We therefore concluded that the NDA should re-evaluate its commercial strategy and its capability to execute it.

1 Comptroller and Auditor General, *The Nuclear Decommissioning Authority's Magnox contract*, Session 2017–2019, HC 406, National Audit Office, October 2017.

6 In 2018, the Committee of Public Accounts (the Committee) published a critical report and recommended that the NDA improve:

- its understanding of the state of the sites;
- its ability to monitor work carried out on them; and
- the capability and expertise of its executive team.[2]

This report

7 This report follows up on our and the Committee's findings by evaluating the NDA's progress addressing the Committee's recommendations during the two-year notice period. It also assesses the NDA's performance in re-negotiating the contract and then managing it using the contractual levers it had available. We assessed performance against contract targets and considered the effectiveness of NDA oversight by drawing on our frameworks for assessing commercial and contract management good practice. We also held discussions with the Office for Nuclear Regulation (ONR) and NDA's contractor, CFP. Our approach is set out in Appendix One and our evidence base and limitations to our analysis are described in Appendix Two. A glossary of key terms is included in Appendix Three.

2 HC Committee of Public Accounts, *Nuclear Decommissioning Authority: risk reduction at Sellafield*, Sixty-Fifth Report of Session 2017–2019, HC 1375, October 2018.

Summary

Key findings

8 **Given the substantial challenges created by the failure of the initial procurement and early phase of the Magnox contract, the Nuclear Decommissioning Authority (NDA) did well to negotiate its revised contract with Cavendish Fluor Partnership (CFP), which would enable it to move to its new delivery model.**[3] The NDA had six months to design and negotiate a revised contract withCFP while dealing with several legal risks and planning for its new subsidiary to take over the decommissioning work from September 2019. Importantly, the NDA has managed to avoid any further legal disputes with its supplier and other parties, while at the same time agreeing a settlement at a reasonable cost which allowed it to leave its original decommissioning contract nine years early and oversee continued decommissioning work in the meantime (paragraphs 1.7, 1.8 and 2.2 to 2.4).

9 **CFP completed 93% of the decommissioning work it was asked to do under the renegotiated contract.** CFP undertook £2.72 billion of work over the five years of its revised contract with the NDA, representing 93% of what it was asked to deliver over that period.[4] As part of its work, CFP succeeded in placing the first Magnox station into a safe and enclosed state, which the NDA refers to as the 'care and maintenance' stage, ready for further decommissioning in the future. CFP also largely completed the de-fuelling of the last Magnox station, significantly reducing the level of on-site hazard, as well as cleaning sites of radioactive waste, contaminated water and stored waste materials. The Office for Nuclear Regulation (ONR) says these achievements are significant and the NDA believes that the agreement with CFP helped maintain a focus on the health, safety and wellbeing of people working at sites and among local communities. Overall, the NDA reported that CFP achieved nearly all of the interim milestone targets set out in the contract. CFP's progress in reaching the expected physical states for sites at the end of the contract was less positive; out of 97 targets defining the required end-states of sites by the end of the contract, 45 were fully achieved and 25 were partially achieved (paragraphs 2.14 to 2.15, Figure 6).

3 Comptroller and Auditor General, *The Nuclear Decommissioning Authority's Magnox contract*, Session 2017–2019, HC 406, National Audit Office, October 2017.

4 At contract close in September 2019, the value of the programme was £2.91 billion, up from £2.81 billion in September 2017.

10 **In renegotiating the contract in August 2017, the NDA agreed to pay CFP a contract fee of up to £152 million subject to its performance in managing the decommissioning work.** The NDA acknowledged that this included a cost for early termination of the contract of some £20 million to reduce the risk of further legal challenge and incentivise CFP to support the smooth transition to a new delivery model from September 2019. The Department for Business, Energy and Industrial Strategy (the Department) and HM Treasury endorsed this deal, which represented a fee rate of 5.4% of the contract value, similar to the original contract terms had CFP delivered the original programme of work at target cost. In the event, the NDA paid CFP £143 million for its management of the work, 94% of the potential fee agreed in August 2017 and received additional support at CFP's cost in transitioning to the new Magnox subsidiary. (paragraphs 2.5 to 2.9, Figure 3).

11 **The NDA has responded to earlier criticism of its management of the Magnox contract, but some changes took time to embed.** In its February 2018 report, the Committee of Public Accounts (the Committee) concluded that the NDA did not have enough capability to manage the Magnox contract. Responding to this conclusion, the NDA strengthened its executive team by recruiting a new director for nuclear operations and a new commercial director. The NDA also took steps to increase the capacity of its day-to-day contract management team and in January 2019 it reached a final complement of 18 staff and 16 consultants, up from 18 people in June 2018. Over this period, the NDA still found it challenging to keep an up-to-date view of programme work plans and to promptly process the volume of requests from CFP to change the contracted plan. It temporarily diverted three staff from additional site monitoring work for six months to help manage the contract and to work with consultants to produce an alternative programme plan to improve the NDA's capacity to assess CFP's performance in the final stages of the contract (paragraphs 3.3 to 3.8).

12 **The NDA faces ongoing challenges in relation to the removal of asbestos from the sites.** The NDA views asbestos as a widespread risk across the Magnox estate because the work required to remove it is subject to uncertainty and can be technically difficult. The NDA agreed performance milestones with CFP for the bulk removal of asbestos, with payment dependent on certification of relevant areas by independent reviewers. Informed by external advice and a review of quality assurance certification procedures, NDA officials initially delayed approval of work done against two of these milestones, worth around £3 million. This was because they had concerns about the quality of evidence supporting some aspects of the work. The NDA approved the work as complete in December 2019, three months after the end of the contract. It determined that the contractual requirement was for the bulk removal of asbestos and that the appropriate certificates had been granted. The NDA says it continues to monitor outstanding issues relating to the quality assurance of asbestos work and has the option to recoup fees from CFP for up to three years should it become apparent that requirements relating to asbestos removal were not met (paragraphs 3.11 and 3.12).

13 The NDA now estimates that the cost of the work needed to put the Magnox sites into the care and maintenance stage of the decommissioning process has increased. In its February 2018 report, the Committee found that the NDA had underestimated the scale of work needed to decommission sites when it let the original Magnox contract. Our 2017 report found that the expected costs of decommissioning the Magnox sites increased from £3.8 billion in CFP's winning bid in 2014 to £6.0 billion in early 2017. The NDA revisited this analysis in August 2017 and estimated the cost at around £5.9 billion (nominal value, £5.6 billion in 2018-19 money terms). In July 2019, the NDA estimated that the whole programme would cost between £6.9 billion and £8.7 billion with a best estimate of £7.5 billion (in 2018-19 money terms) to get all the Magnox sites cleared and safely enclosed, ready for what it calls the 'care and maintenance' phase. During this phase the reactors and waste stores are sealed, and the site kept secure, potentially for some 80 years, to allow radiation levels to decay over time. Costs are likely to be subject to further change, largely because of the inherent uncertainties involved in cleaning up the UK's nuclear sites. The NDA is continuing to refine its estimates (paragraphs 2.17 and 2.18).

Concluding remarks

14 In March 2017, the NDA faced a challenging set of circumstances after the failure of the original Magnox contract. Since then, it negotiated a revised contract with CFP, avoided further litigation and succeeded in maintaining a working relationship with its supplier that led to the completion of £2.72 billion of decommissioning work before the contract ended in August 2019.

15 But there has been a cost to the NDA and the taxpayer in addition to those we reported in 2017 as a consequence of the flaws in its strategy when it let the original Magnox contract in 2014. The NDA estimates that its revised contract included a termination cost of £20 million to negotiate its early exit from the contract and incentivise a smooth handover of sites without further legal challenge. The results of the NDA's recent work to update the decommissioning programme for the Magnox sites shows that there remains significant uncertainty around its cost, with current estimates ranging from £6.9 billion to £8.7 billion. With the NDA now taking more direct control over the management of its sites, it will be critically important that it builds and retains better knowledge of the condition of its sites to enable it to plan and deliver decommissioning work efficiently and effectively. The NDA considers that it will be better placed to achieve this under its revised delivery model, but it is too early for us to assess the effectiveness of these arrangements.

Recommendations

16 The NDA has moved away from a commercial model in which all site licence companies are owned by private sector consortiums with both Magnox and Sellafield now wholly owned by it. We understand that the NDA is considering the future operating model for its other sites and contracts and has recently announced plans for Dounreay Site Restoration Ltd and LLW Repository Ltd to become wholly owned subsidiaries in 2021. The NDA will still need to maintain effective relationships with suppliers, but it will also need to delegate the management of contractual relationships to its subsidiaries so that it can focus on effective strategic oversight. Our expectation is that the NDA will share and apply these recommendations with its subsidiaries, as appropriate, to support improvements across its estate.

With specific reference to the Magnox contract the NDA should:

a expedite its work to review the standard of quality assurance processes for asbestos and consider whether it should recoup fees from CFP.

With input from the Government Commercial Function, the NDA should:

b explore with its subsidiaries what contractual levers can be included in future contracts to support the timely and effective management of underperformance;

c ensure that its subsidiaries have the capability to design and manage complex contracts; and

d ensure that its subsidiaries have the capacity to test, challenge and validate supplier information in a timely way, maintaining assurance as a primary activity in the management and oversight of the work at all times.

The NDA should also:

e as a priority, increase its understanding of the condition of its sites and the volume and complexity of remaining decommissioning work; and

f through increased knowledge and experience, work to reduce uncertainty around the cost of future decommissioning work.

Part One

Background

1.1 This part summarises the events leading up to the Nuclear Decommissioning Authority's (NDA's) decision in March 2017 to end its original Magnox contract with Cavendish Fluor Partnership (CFP) and its subsequent work to renegotiate the contract to cover the five years to 31 August 2019, including a two-year notice period.

The original Magnox contract

1.2 Under the Energy Act 2004, the NDA is responsible for operating, decommissioning and cleaning up 17 nuclear sites in England, Wales and Scotland, with the original Magnox contract covering 12 of these.[5] The NDA delivers these obligations through others, primarily site licence companies (SLCs) who hold the nuclear site licence issued by the Office for Nuclear Regulation (ONR). SLCs are responsible for carrying out the required work to decommission the sites. The NDA's decommissioning work will end when it releases the sites for other uses. On current plans, it expects that this will take approximately 100 years to complete.

1.3 Until recently, the NDA typically managed each SLC through a parent body organisation (PBO) – a consortium of private companies that bid for the temporary ownership of the SLC through an open competition. The PBO acts as a parent company, providing additional resources and management expertise. In 2012, the NDA began a competitive procurement for a new PBO for its Magnox sites as its existing contract was coming to an end. In 2014, the NDA awarded a 14-year contract to decommission two nuclear research sites and 10 Magnox sites to CFP. In this report, and for ease, we do not separately refer to the CFP in its role as the PBO and Magnox Limited, the contractor providing the SLC function for the Magnox sites. Instead, we refer simply to CFP.

5 Magnox is a type of nuclear power reactor, deriving its name from the magnesium alloy used to cover the fuel rods inside the reactor. These reactors have now stopped generating power.

1.4 After awarding the contract, the NDA and CFP started a process they called 'consolidation'. The NDA described this as a "trueing up" between what CFP were told to expect in terms of work on the sites, and what it actually found when it took over responsibility for decommissioning them. The NDA originally envisaged that this process would take about 12 months. In October 2017, we reported that the consolidation process continued for more than two years, during which the expected costs of decommissioning the Magnox sites increased from £3.8 billion in 2014 when the contract was awarded, to more than £6 billion in 2017.[6]

The termination of the Magnox contract

1.5 In March 2017, the NDA's Board decided to terminate the contract with CFP nine years early. This decision was based on legal advice that indicated that the volume of contractual amendments and the ensuing increase in cost to the original contract was not permissible under public procurement law.

1.6 The Secretary of State for Business, Energy & Industrial Strategy announced the NDA's decision to terminate the contract in March 2017. The NDA gave CFP two years' notice, effective between September 2017 and August 2019. The Secretary of State also announced that the NDA had agreed to pay £97.3 million to settle legal claims with the previous contractors. This followed a ruling by the High Court in July 2016 that found that the NDA had wrongly decided the outcome of the procurement process when it awarded the contract to CFP in 2014. Our report in October 2017 found that costs of a further £24.6 million were incurred by the NDA in legal and external advice and the time of its own staff. The termination of the Magnox contract and the case against the NDA at the High Court are legally separate issues.

The renegotiated contract

1.7 Between March and September 2017, the NDA managed two programmes in parallel: designing and agreeing with CFP the terms of a renegotiated Magnox contract; and designing and agreeing the new management arrangements for the sites at the end of the contract.

1.8 In August 2017, the NDA agreed a renegotiated contract with CFP. This covered the five-year period from the start of the Magnox contract in September 2014 to the end of the notice period on 31 August 2019 . The management of the Magnox sites returned to the NDA on 1 September 2019. The NDA has made Magnox Ltd a wholly owned subsidiary to manage the decommissioning of these sites.

6 Comptroller and Auditor General, *The Nuclear Decommissioning Authority's Magnox contract*, Session 2017–2019, HC 408, National Audit Office, October 2017.

Part Two

Contract design and performance

2.1 This section sets out:

- the renegotiated contract's design, agreed between the Nuclear Decommissioning Authority's (NDA) and Cavendish Fluor Partnership (CFP);
- the contract's performance regime and CFP's performance against it; and
- the increasing cost of the current phase of decommissioning.

Contract design

Challenging context

2.2 In March 2017, the Secretary of State for Business, Energy & Industrial Strategy announced that the NDA had agreed settlements with two suppliers after the High Court found that the NDA had run a defective procurement. The NDA had also decided to terminate its contract with CFP. The NDA and government officials have described how this was a challenging time reputationally for the NDA and for the morale of staff.

2.3 Against this backdrop, the NDA had under six months to design and agree a new contract with CFP. The NDA identified two main legal risks during this period which it successfully mitigated. The first was the risk of challenge from other external parties on the grounds that the renegotiated contract was also unacceptable under public procurement regulations. The second was that CFP would challenge the NDA's decision to terminate the contract early or challenge the proposed terms of the renegotiated contract.

2.4 In these circumstances and in view of the time constraints, HM Treasury and the Department for Business, Energy & Industrial Strategy (the Department) did not require the NDA to submit a full business case as would normally be the case for such a substantive change to a contract of this value. Instead, the NDA submitted a paper to a joint session of the Treasury Approvals Panel and the Department's Project Investment Committee in August 2017. After receiving advice from across government, including the NDA, UK Government Investments, the Infrastructure and Projects Authority and Government Commercial Function, the Secretary of State for Business, Energy & Industrial Strategy approved the termination arrangements on 28 September 2017, with the renegotiated contract operating from 1 September 2017.

Contract structure

Contracting strategy

2.5 The NDA designed the original Magnox contract as a 'target-cost incentive fee' contract with the aim of giving the contractor a stronger incentive to deliver savings for the taxpayer. Under this contract model, the contractor's fee goes up if it can reduce the costs of decommissioning and down if the costs of decommissioning increase. In October 2017 we concluded that this contracting strategy was not appropriate in this case because it relied on the NDA having a good understanding of the programme of decommissioning work that was needed at the time of the original contract procurement.[7]

2.6 The NDA changed to a 'cost-plus' contracting model in renegotiating its contract with CFP. Under this contract, the NDA reimbursed CFP for the costs of carrying out the decommissioning work which, following further work, the NDA estimated would be £2.81 billion. CFP agreed a fee of up to £152 million for carrying out this work which represented its profit from the contract. Compared with a target-cost incentive fee contract, a cost-plus model does not, of itself, incentivise the contractor to deliver savings (**Figure 2**). We consider that the change to a cost-plus model was appropriate when the NDA re-negotiated the contract because of both continuing uncertainty about the decommissioning work required and the lack of time to generate efficiency savings over a two-year notice period.

7 Comptroller and Auditor General, *The Nuclear Decommissioning Authority's Magnox contract*, Session 2017–2019, HC 408, National Audit Office, October 2017.

Figure 2
Characteristics of the renegotiated Magnox contract

The Nuclear Decommissioning Authority's (NDA's) renegotiated contract changed from a 'target-cost' to a 'cost-plus' payment model

Contract characteristic	Target-cost incentive fee contract (the original Magnox contract)	Cost-plus contract (the renegotiated contract)
Contractor recovers all costs of decommissioning work from the NDA	Yes	Yes
Contractor earns fee conditional on meeting key outcomes defined in the contract	Yes	Yes
Contractor's fee goes up if work is completed at lower cost, and down if work is implemented at higher cost	Yes	No

Notes

1 Under the target-cost incentive fee contract, the contractor's fee increases if it can reduce the costs of decommissioning and decreases if the costs of decommissioning increase.

2 Under a cost-plus contract the contractor is reimbursed for costs incurred during delivery, as well as being paid a fee for performing the work.

Source: National Audit Office analysis of the terms of the Magnox contract and the Nuclear Decommissioning Authority's contracting strategy

Agreeing the fee

2.7 The NDA says it achieved the lowest fee that could be negotiated with CFP in the revised contract, given the difficult circumstances of this contract amendment and the potential for further legal dispute. The NDA also says that this amount was less than CFP's opening proposal at the start of renegotiations. In making its case to HM Treasury and the Department, the NDA argued that this fee was value for money because the 5.4% fee rate was only slightly higher than the 5.3% in CFP's original bid. The Department and HM Treasury endorsed this deal.

2.8 The NDA's argument did not include an explanation of the variable nature of the fee rate under the original contract. CFP had the potential to earn a much lower fee rate under the original 14-year contract in circumstances where it did not complete the decommissioning work in line with the agreed plan and to achieve a higher fee if it completed the scheduled work at a lower than agreed cost. As such, the value of the fee under the original contract terms that CFP could earn depended on:

- **the agreed value of the 'consolidated' work schedule:** The NDA and CFP did not reach a final agreement on the scope and target cost of work to be completed under the original Magnox contract and failed to agree the fee that CFP should earn given the expanded scope. In parallel, the High Court's judgment, from July 2016, ruled that the NDA had wrongly decided the outcome of the original procurement process. This caused the NDA to reduce its risk appetite and change its commercial approach.[8] However, an informal agreement was reached in June 2016, which included a target cost of £5.45 billion.

- **whether the 'target cost' for the work programme was achieved:** The significant increase in the scope of work as a result of consolidation would have increased CFP's fee. The original contract also included a 'shareline' which allowed the contractor to share the savings should it spend less than the contracted target cost and share the additional costs should it spend more than the target figure.[9] This provision was intended to incentivise cost control and share the risk of overspend. In June 2016, the NDA estimated that the decommissioning programme would cost £6.0 billion, 10% (£558 million) above the target cost of £5.45 billion. The NDA therefore assessed that the shareline clause could have reduced CFP's fee to £152 million covering the 14-year contract, equivalent to a fee rate of 2.5%. The NDA's same assessment also recognises that it was possible for CFP to have reduced costs over the period in line with the target cost which would have resulted in a fee of up to £291 million (**Figure 3**).

2.9 The NDA sought additional advice from external experts on the renegotiated contract, including on the commercial settlement. This advice concluded that while it was difficult to substantiate the underlying value for money of the deal, there was evidence that the NDA had sought to "drive out further poor value" and a fee amount of £152 million was likely to be the best outcome for it, given its weak position, potential for further legal action, and a wish to exit the failed contract. The advice also recognised that the negotiated fee of £152 million included "a cost for termination" valued at £20 million. As part of the renegotiation, CFP agreed to waive all legal claims against the NDA for the period up to August 2017. The NDA also tied £10 million of this settlement to CFP working constructively to support the transition of site management to the NDA on 31 August 2019.

8 See footnote 7.

9 Under the original contract, if actual costs exceeded the target cost, CFP would lose 25% of the difference in fees. If actual costs were below the target fee, CFP would receive 50% of the difference in fees.

Figure 3

Fee model under the original and renegotiated Magnox contract

Cavendish Fluor Partnership (CFP) could earn up to £152 million in fee under the renegotiated contract

	June 2016 proposed settlement under the original Magnox contract	Renegotiated Magnox contract
Duration	14 years	5 years
Nuclear Decommissioning Authority's (NDA's) estimate of the cost of work	£6 billion	£2.81 billion[4]
Target cost	£5.45 billion	
'Shareline' included in the contract[1]	Yes	No
Fee that CFP could earn[2]	£291 million (5.3%)	£152 million (5.4%)
NDA's assessment of the fee CFP could earn, based on its view of programme costs	£152 million[3] (2.5%)	£152 million (5.4%)
CFP actual fee earned under renegotiated contract	–	£143 million[5] (5.3%)

Notes

1 The NDA included this contractual provision in the original Magnox contract. The 'shareline' is incurred or received by the contractor if the actual cost of work differs from the target cost. If actual costs exceed the target cost, CFP would lose 25% of the difference in fees. If actual costs were below the target fee, CFP would receive 50% of the difference in fees.

2 Under the original contract terms, £291 million would have been the fee if the target cost had been achieved. However, the fee was uncapped, meaning it could continue to increase if CFP had justified further changes to increase the target cost or achieved costs under the target of £5.45 billion. For the renegotiated contract, the fee was capped at £152 million.

3 In June 2016, the NDA and CFP reached an informal agreement to conclude the consolidation process. At the time of these discussions, the NDA team estimated a programme cost of £6 billion which was 10% higher than the target cost of £5.45 billion and included costs that NDA had not allowed in the agreed programme at that time. In this scenario and applying a negative 'shareline' would have reduced CFP's fees to £152 million over the 14-year period.

4 The £2.81 billion estimate of the cost of work under the renegotiated contract is the value recorded in the Lifetime Plan signed on 12 September 2017.

5 The NDA paid CFP £54.6 million under the original contract terms to September 2017. This formed part of the total £143 million fee paid to CFP.

Source: National Audit Office analysis of documents provided by the Nuclear Decommissioning Authority and UK Government Investments

Performance regime

2.10 Our past work reviewing government contracts shows the importance of implementing a performance measurement regime that is aligned with the outcomes that public bodies want to achieve and is clear to contractors. We frequently find that performance incentive mechanisms in contracts do not work as intended (**Figure 4**).[10]

Categories of performance targets

2.11 Our review of performance measures used in the renegotiated contract suggests these could have been clearer at times. The contract grouped the work that CFP would need to deliver into the following three main categories and paid fees based on performance against these:

- **Interim milestones** that CFP would need to achieve during the contract. Examples include draining radioactive ponds and removing asbestos from the sites.
- **Termination states** which the NDA defined as the agreed physical state that sites were planned to be in by 31 August 2019. Examples include demolition of a turbine hall and reconfiguration of an acid storage facility.
- **Performance-based incentives**:
  - Payments made for achieving a wider set of performance targets across the contract period such as asbestos removal, asset management, cost control, improving cyber security of sites and setting a workforce strategy; and
  - Payments made for achieving 'good leaver' outputs to facilitate the transition of the Magnox sites to the new subsidiary. This included the requirement for organisational readiness and CFP to provide funding scenarios for each site ready for the transition.

2.12 The termination states and the performance requirements associated with these were not as clearly specified and broader in nature than the interim milestone targets in the contract. CFP considered that the termination states targets were hurriedly designed and were insufficiently supported by evidence. Both parties recognised ongoing uncertainties regarding the volume and condition of waste and asbestos on the sites.

10 National Audit Office, *Commercial and contract management: insights and emerging best practice*, November 2016.

Figure 4

Effective performance measures – insights from government contracts

Our 2016 publication: Commercial and Contract Management Insights and Good Practice outlines that without relevant and workable performance measures, business outcomes may fail or perverse outcomes may be created

Warning indicators	Emerging best practice		
A lack of alignment between overall business outcomes and performance measures.	Existing guidance outlines formal approaches and processes to establishing, monitoring and evaluating performance. Determining the right measures, and the right number of measures, to include in a contract is important, but needs to form part of a wider process:		
	Get measures right	Focus on what matters	Time should be invested to produce measures that flow from the strategy that outlines expected outcomes – the key things that matter.
Measures that are complicated, vague or ill thought through.		Proportional	The burden of work required, such as in obtaining information and monitoring, should not outweigh benefits when considering the number of measures and access to robust data.
		Clear	Need advance agreement on the purpose, definition and measurement of each measure.
		Strong evidence base	Evidence gives confidence that targets are achievable.
Financial incentives linked to performance measures being too small to have an impact.	**Review & update**	Where possible amend key performance indicators during a contract lifetime without altering the balance between risk and reward. Indicators that probably should be changed may include those where incentives linked to measures are too small to matter; that are not providing the right incentives; have insufficient information to monitor performance, or where the time needed to monitor performance outweighs the benefits gained. A regular review allows government to consider whether indicators remain relevant.	
Measures becoming out-of-date during the contract.	**Use other levers**	A well-designed set of performance measures should motivate suppliers but they should be used alongside other methods.	

Source: National Audit Office, *Commercial and Contract Management Insights and Good Practice*, 2016

2.13 The NDA linked the value of fee earned to CFP's performance across the three target categories. Of the potential fee of £152 million, three quarters was allocated to achieving 97 interim milestones across the contract (**Figure 5**).

Contractor performance

2.14 Over the 5-year contract period, CFP undertook £2.72 billion of work, representing 93% of what it was asked to deliver, taking into account further additions to the programme during the contract period. The Office for Nuclear Regulation (ONR) regards the work completed as a significant landmark in reducing the degree of hazard on the sites and preparing the way for their future restoration. Notable successes include:

- the removal of nearly all spent fuel from the last of the Magnox stations, storing it on site before transporting it to the NDA's Sellafield site for reprocessing. According to the NDA, the removal of this fuel takes away the last of the remaining significant nuclear hazards on the Magnox sites and is critical to the eventual closure of the reprocessing facility at Sellafield;
- the Bradwell site moving to the 'care and maintenance' phase in November 2018, the first of the Magnox stations to do so; and[11]
- cleaning of two ponds of radioactive waste, highly contaminated water and sludge; and the consolidation of interim level waste storage so that three stores were no longer required, saving capital costs of around £45 million and asset management costs.

The NDA also believes that the agreement with CFP helped to maintain a focus on the health, safety and wellbeing of people working at sites and among local communities.

2.15 By the end of the contract, the NDA reported that CFP had achieved most of the interim milestones and had received nearly all of the fee allocated for these (**Figure 6** on page 22). The contract model allowed CFP to complete milestones later than their scheduled date as long as they were achieved within the contract term. CFP's progress in reaching the expected physical states for sites at the end of the contract was less positive; out of 97 end targets, 45 were fully achieved and 25 were partially achieved. In total, the NDA paid CFP £143 million of the £152 million fee available under the contract, taking into account a final settlement agreed with CFP for some areas of performance considered by NDA (although not CFP) to be below expectations and including an agreement that CFP also cover the cost of £0.5 million for CFP staff helping in the transition to the new NDA subsidiary.

11 'Care and maintenance' is a stage during the decommissioning process where reactors and waste stores are sealed, and sites kept secure for a period. The NDA says this allows radiation levels to naturally decay and results in simpler and more-cost effective decommissioning in the final stages.

Figure 5

Contracted performance targets and fee paid to Cavendish Flour Partnership (CFP), September 2014 to August 2019

Most contract fee was allocated to achieving interim milestones

	Interim Milestones[1]	Termination states (expected by contract end)[2]	Performance-based incentives (General)[3]	Performance-based incentives (Good leaver)[4]	**Total Fee**
Number	97	97	295	57	
Fee (£m)	113.5 (75%)	4.5 (3%)	24 (16%)	10 (7%)	**152 (100%[5])**

Notes

1 Interim milestones are targets that Cavendish Fluor Partnership needed to complete during the contract.

2 Termination states are targets which the Nuclear Decommissioning Authority defined as the agreed physical state that each site was planned to be in by 31 August 2019.

3 General performance-based incentives are payments made for achieving a wider set of performance-based targets across the contract period.

4 Good leaver performance-based incentives are payments made for achieving outputs which facilitate the transition of the Magnox sites to the new subsidiary.

5 Individual proportions do not sum to 100% due to rounding.

Source: National Audit Office analysis of Nuclear Decommissioning Authority performance information

Progress against the budgeted work plan

2.16 The estimated value of the programme of work in the renegotiated contract went up by £100 million to £2.91 billion over the last two years of the contract.[12] CFP completed most of the work under the contract but it spent 5% more than was anticipated in the budgeted plan. CFP did not therefore receive a performance-based incentive fee for cost control but did receive full reimbursement for its programme spending. Some £195 million of budgeted work was not finished, equivalent to 7% of the total work plan.

Increasing decommissioning costs

2.17 Our 2017 report found that the expected costs of decommissioning the Magnox sites increased from £3.8 billion in CFP's winning bid in 2014 to £6.0 billion in early 2017. The NDA revisited this analysis in August 2017 and estimated the cost at around £5.9 billion. In December 2018, the NDA recognised that the longer-term cost of the work to get all the Magnox sites cleared and safely enclosed – ready for the 'care and maintenance' phase – was going to increase. However, for reasons explained in paragraph 3.7, below, the NDA did not have a clear picture of by how much.. The NDA commissioned a separate review of programme costs in early 2019.

12 Some of this increase is attributed to a change in money values with no change in programme scope.

Figure 6

Contractor performance and fee earned, September 2014 to August 19

Cavendish Fluor Partnership received £143 million of a possible £152 million fee under the renegotiated contract

	Interim Milestone[1]	Termination states (expected by contract end)[2]	Performance-based incentives (General)[3]	Performance-based incentives (Good leaver)[4]	Fee settlement deduction[5]	**Total fee earned**
Number fully achieved	91	45	267	54		
Number part achieved	6	25	10	3		
Number not achieved	–	27	18	–		
Total number contracted	97	97	295	57		
Fee earned (£m)	111.8	3.9	20.7	9.6	(2.98)	**143**
Percentage of fee available	99%	87%	86%	96%		**94%**

Notes

1 Interim milestones are targets that CFP needed to complete during the contract.

2 Termination states are targets which the Nuclear Decommissioning Authority (NDA) defined as the agreed physical state that each site was planned to be in by 31 August 2019. Payments related to achievement of termination were made from retained funds from past milestone payments as per the contract mechanism.

3 General performance-based incentives are payments made for achieving a wider set of performance-based targets across the contract period.

4 Good leaver performance-based incentives are payments made for achieving 'good leaver' outputs to facilitate the transition of the Magnox sites to the new subsidiary.

5 Where a termination state was not achieved at the contract end, we understand that the contract allowed schedule progress to be taken into account and, if this was greater than 95% of the plan for a site, then fees were still released.

6 £143 million total fee earned was the final settlement agreed with CFP after deducting £2.98 million relating to the settlement. See Part Three. The payments were in addition to the normal reimbursement for costs incurred in undertaking the works.

Source: National Audit Office analysis of Nuclear Decommissioning Authority performance information

2.18 The findings of that 2019 review show the NDA found it difficult to get a clear view of the costs of early phase decommissioning due to the levels of uncertainty and risk. Reporting in July 2019, the review estimated that the whole programme would cost in the range £6.9 billion to £8.7 billion to get all the Magnox sites cleared and safely enclosed, ready for the 80 year period of care and maintenance that follows. The NDA considered the most likely outturn was £7.5 billion. To estimate the increase in programme costs since August 2017, the NDA adjusted its August 2017 estimate from £5.9 billion to £5.6 billion to put it on a comparable basis. This indicates an increase in programme costs of between £1.3 billion and £3.1 billion based on the adjusted estimate. Costs are likely to be subject to further change, largely because of the inherent uncertainties involved in cleaning up the UK's nuclear sites. The NDA is continuing to refine its estimates.

Part Three

The management of the contract

3.1 This section sets out how the Nuclear Decommissioning Authority (NDA) managed the contract and covers:

- measures taken by the NDA to strengthen its capacity and capability;
- its monitoring of the work carried out on the sites; and
- how effectively it addressed underperformance when it detected it.

3.2 The NDA says that nuclear decommissioning work is inherently uncertain because of the nature of the clean-up task and the cost of the technology required to undertake the work. The contract with Cavendish Fluor Partnership (CFP) covered the initial phase of this decommissioning task: the process of getting sites into a safe and enclosed condition so that they can be held in a 'care and maintenance' state until further decommissioning in the future. To reflect the uncertainty of the work, CFP was required to raise requests to change aspects of the work plan. The NDA considered each request and decided whether to approve or reject it. Approved changes were added to the contract and the budgeted work plan. The change request was part of the process to allow the NDA to track decommissioning progress, measure CFP's performance and calculate the costs and fees due.

Capacity and capability

Recruiting contracting expertise

3.3 In its February 2018 report, the Committee of Public Accounts (the Committee) concluded that the NDA did not have enough capability to manage the Magnox contract. It recommended that the NDA improve the capability and expertise of its executive team and operational staff.

3.4 The NDA addressed this recommendation by strengthening its commercial capacity and capability. It recruited a new commercial director in November 2017 and a new director for nuclear operations in April 2018. It also increased the capacity of its site facing team responsible for day-to-day contract management during the final stages of the contract. At its peak from January 2019 to the end of the contract, the NDA's site-facing team had 18 full time staff and 16 contracted commercial specialists, up from 18 people in June 2018.

3.5 Progress in recruiting staff capable of supporting day to day contract management took time. In August 2018, the Infrastructure and Projects Authority said that the NDA faced an ongoing challenge to recruit enough personnel to manage the contract effectively.

3.6 The significant number and timing of change controls submitted by CFP, also led to the NDA reallocating a team of three between November 2018 and May 2019 from their role checking work carried out at Magnox sites to reviewing CFP's change requests and to supporting work on updating the budgeted work plan. The NDA says this made best use of its available resources and capability at this time.

Processing changes to the contracted plan

3.7 Arrangements for agreeing changes to the programme of work between the NDA and CFP were defined in the contract but were difficult and slow to progress at times. The NDA took on average three months and in two cases, 11 months to resolve change requests; partly because CFP did not provide sufficient and timely information. The two parties developed differing opinions on how to manage the programme and changes to it. CFP's view was that the NDA prioritised contractual processes over updating the programme to ensure its value as a 'live' operational tool. NDA's view was that managing to the terms of the contract was paramount to avoid the risk of further external criticism or legal challenge in relation to the original procurement. We understand that change requests remained outstanding late into the contract. As a consequence, the long-term work plan was no longer up to date and became a less reliable measure of the condition of sites and decommissioning progress.

3.8 In 2019 the NDA commissioned its own review of the long-term plan, which was partly intended to validate existing information on CFP performance, improve its intelligent client capability in the final stages of the contract and to facilitate the transfer of responsibility for Magnox sites to the new management. This review reported to NDA's senior management in July 2019, just one month before the end of the contract. The review's findings provide a foundation for the incoming Magnox subsidiary management team.

Monitoring work on the sites

3.9 Effective assurance of contractor performance involves the contracting authority striking a balance between relying on information reported by the contractor and undertaking more resource-intensive independent verification. A cross-government review of major contracts from December 2013 found there was an over-reliance on performance information reported by contractors and insufficient verification of that performance by public contracting authorities.[13] In its February 2018 report, the Committee concluded that the NDA had shown "a staggeringly inaccurate understanding of the state of the sites" and a "lack of due diligence and apparent disregard for the need to independently assure itself of the states of the sites". The Committee concluded that this lack of assurance ultimately led to the early termination of the original Magnox contract.

Sampling milestone payments

3.10 We described in Part Two how the NDA increased its site-facing monitoring capacity towards the end of the contract. Once CFP completed a milestone it would send the NDA documentary evidence to support requests for payment. The NDA would then expect its site-facing teams to assess whether completion had in fact been achieved. We reviewed 11 of the 97 interim milestones to assess how well the NDA had scrutinised the evidence before paying a fee for a completed milestone. We found that the NDA challenged the evidence CFP provided and, on several occasions, requested further documentation before approving the milestone payment. In nine of the 11 cases, the NDA was able to show that it had undertaken checks of sites to independently validate the work completed. In the two remaining cases, the NDA's documents did not clearly show that on-site independent checks were completed before milestones were signed off. It notes that site visits are part of its preferred assurance approach but are not a formal requirement for approval of every milestone and claim, and that under no circumstance was a fee payment authorised without a thorough fee assurance process having first been completed.

Monitoring of asbestos work

3.11 Our sample of 11 cases included two other milestones for the removal of asbestos at Dungeness and Wylfa. The NDA recognises asbestos as a widespread risk across the 17 sites it manages and work to remove it can be challenging and uncertain because of the physical location of the asbestos. All such work has to be certified by an accredited organisation and finding people with the right combination of nuclear decommissioning and asbestos removal skills to do this work can be difficult.

13 HM Government (2013) *Cross Government Review of Major Contracts: Summary of findings and recommendations endorsed by the Oversight Group,* Autumn 2013, available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/268800/Cross_Government_Review_of_Major_Contracts_Summary_Report.pdf

3.12 The NDA paid around £3 million in fees for the two milestones on the basis that CFP had completed all the work at Wylfa and most of the requirements at Dungeness. Our review of documents shows clear evidence of independent validation of asbestos work completed by CFP in these cases but that some NDA staff had concerns about the quality of work undertaken and the adequacy of technical certification at both sites. For this reason, NDA approval of these milestones was temporarily withheld with independent consultants supporting this approach. Further subject matter expert review of certification procedures also identified concerns about the quality of assurance work. While the NDA's final assessment is that the original performance requirement for the certified bulk removal of asbestos was met, wider concerns about the quality of asbestos certification are not yet fully resolved. The NDA subsequently signed off the milestones in December 2019, three months after the end of the contract. The NDA continues to monitor the outstanding query relating to the quality assurance measures for this asbestos removal work. It says it has the legal option to recoup fees from CFP for up to three years.

The timeliness of milestone checking

3.13 A final contract settlement fee was agreed with CFP before the final milestone verification processes and governance had been completed with the fee based on performance data at the time of termination in August 2019. In this context, the risk is that the process of reviewing progress and the quality of outcomes achieved becomes an academic exercise. The NDA's internal audit function carried out its own review of milestones and concluded that overall, there were suitable controls in place for the preparation and submission of the final fee reconciliation, and the NDA's review and approval processes for milestones fee payments were effective.

Addressing underperformance

Contractual levers

3.14 Our past work on government's commercial and contracting relationships has noted that suppliers are not solely motivated by profit but also by other factors such as a desire to maintain reputation. A public dispute about performance can affect a supplier's ability to win future work in government and elsewhere, and significantly affect share price.[14] The use of defective performance notices where contractor performance has been poor and all other avenues have been explored is one formal mechanism available to public bodies. Its effectiveness, however, depends on when such notices are issued and how clearly and accurately they set out the areas of underperformance.

14 See National Audit Office, Commercial and Contracting Management – insights and emerging best practice, 2016

3.15 In addition to the financial incentives set out in Part Two, the NDA's renegotiated contract allowed it to issue a defective performance notice where it believed CFP had not undertaken work in accordance with good industry practice that would result in the NDA incurring additional costs. Addressing underperformance through this route involves multiple stages and can take 18 months.

In considering whether to issue defective performance notices the NDA assessed:

- its ability to sufficiently evidence defective performance by CFP;
- the potential impact on CFP's behaviour and the wider commercial relationship between the two parties;
- the possibility that they may distract CFP from carrying out its work effectively as it focuses on challenging the notice; and
- the cost of engaging legal advisers and committing senior management time to a process that could last 18 months.

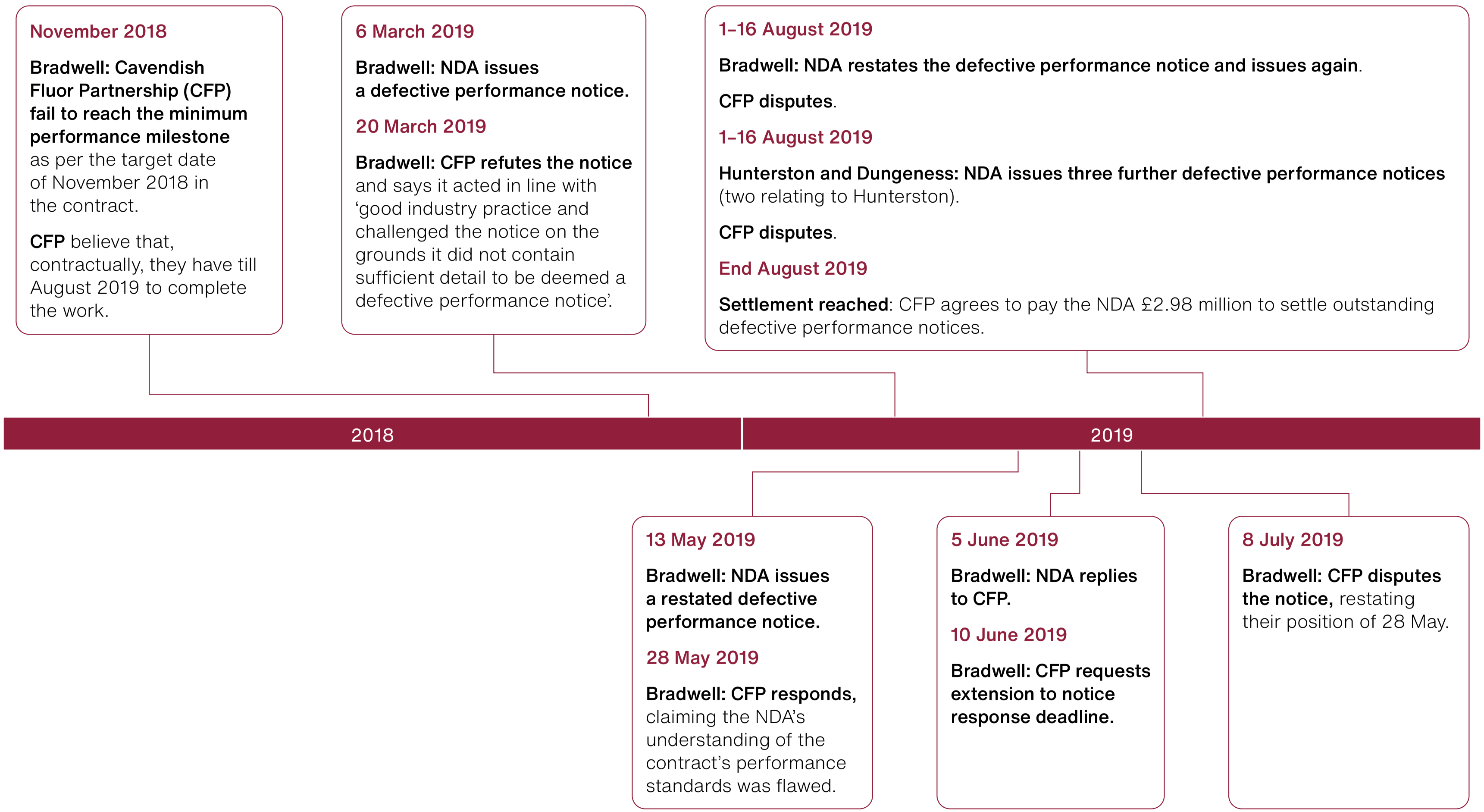
3.16 In the event, the NDA issued CFP with four defective performance notices between March and August 2019 (**Figure 7** overleaf). CFP's opinion was that these notices were without clear evidence to substantiate them. The NDA had a range of processes for monitoring, reporting and escalating underperformance. However, in some cases these did not, from the NDA's perspective, result in the required improvements. In our view, the NDA's ability to use these notices constructively to address performance was undermined by:

- their late issue – three of the four notices were issued in August 2019, the final month of the contract, by which time there was no realistic opportunity for CFP to respond;
- the time gap between their issue and the alleged underperformance incident – the defective performance notice the NDA issued for work at Dungeness, for example, related to activity undertaken more than one year before; and
- issuing the notices with a limited description of defects, giving CFP grounds to reject them. The NDA acknowledges that the first notice it issued for Bradwell in March 2019 was a summary of the defect description, and that it took nearly two months for it to reissue the notice in May 2019 before issuing it a third time in August 2019. CFP also felt it had strong grounds to refute the claims made in the defective performance notices

Figure 7

The Nuclear Decommissioning Authority (NDA) issued four defective performance notices between March and August 2019

A defective performance notice is a formal contractual measure for dealing with performance issues set out in the contract. The NDA issued four such notices to Cavendish Flour Partnership (CFP) during the Magnox termination contract, issuing two in relation to works at the Hunterston site, and one each relating to the Bradwell and Dungeness sites



Source: National Audit Office analysis of the Nuclear Decommissioning Authority's data

Resolving disputed performance issues

3.17 The NDA sought legal and commercial advice on the next steps following its decision to issue defective performance notices. It also discussed the matter with Department for Business, Energy & Industrial Stategy (the Department) officials. The collective view was that the cost of formal arbitration was likely to exceed the likely compensation – though at the time this conclusion was drawn, the NDA had not fully quantified the extent of underperformance in all cases. The NDA elected not to pursue the formal contract dispute process , assessing that, overall, the most effective approach was to conclude a financial settlement with CFP. A settlement was agreed in late August 2019 just before the end of the contract, with CFP agreeing to a fee reduction of £2.98 million for all outstanding defective performance notices and agreeing to cover the £0.5 million cost of its staff providing additional help in the transition to the new NDA subsidiary. At best the NDA's approach offered leverage during final negotiations but the approach also risked damaging a wider relationship with a supplier whose own domestic and international commercial interests were likely to be best served by a positive conclusion to its renegotiated contract with the NDA.

Appendix One

Our audit approach

1 This report examines the Nuclear Decommissioning Authority's (NDA's) management of the renegotiated contract in place with Cavendish Fluor Partnership (CFP) during the notice period (1 September 2017 to 31 August 2019) and assesses the NDA's progress against the risks highlighted in previous reviews by the National Audit Office and the Committee of Public Accounts. The report is structured as follows:

- **Part One** summarises the events leading up to the NDA's decision in March 2017 to end its original Magnox contract with CFP and its subsequent work to renegotiate a contract for the two-year period between August 2017 and September 2019.
- **Part Two** summarises the renegotiated contract's design, agreed between the NDA and CFP, the contract's performance regime and CFP's performance. It also outlines the increasing cost of the current phase of decommissioning.
- **Part Three** sets out the NDA's progress in managing the contract by reviewing measures taken to strengthen its capacity and capability; its monitoring of the work carried out on sites; and how effectively it addressed underperformance when it detected it.

2 To aid clarity and readability, this report refers to CFP as the main body contracted to undertake the work under the renegotiated contract. We do not refer separately to Magnox, the site licence company (SLC). As explained in paragraph 1.3, during the renegotiated contract, CFP was the parent body organisation that owned the MagnoxSLC for the duration of the contract. Magnox SLC holds the nuclear site licence issued by the Office for Nuclear Regulation (ONR). It is the entity carrying out the work to decommission the sites under the renegotiated contract, but CFP is the organisation that is accountable to the NDA for performance under the contract. It is also the organisation that earns fee. Our audit approach is summarised in **Figure 8**.

Figure 8
Our audit approach

The objective of government

The Nuclear Decommissioning Authority (NDA) is a non-departmental public body created by the Energy Act 2004. Its mission is to “deliver safe, sustainable and publicly acceptable solutions to the challenge of nuclear clean-up and waste management” at 17 designated sites in the UK.

How this will be achieved

Between 2012 and 2014, the NDA ran a competitive procurement exercise for services to decommission two nuclear research sites and 10 Magnox sites (Figure 1). The latter comprise power stations that were at, or nearing, the end of their operational life. In March 2017, it terminated the contract, giving the supplier, Cavendish Fluor Partnership (CFP), two years notice. The NDA and CFP renegotiated the contract to cover the five years from the contract’s start in September 2014 to 31 August 2019, including the notice period.

Our study

We reported in 2017 on the events leading up to the NDA’s decision to terminate its original Magnox contract with CFP. In 2018, the Committee of Public Accounts also reported on these issues. This report follows up on the NDA’s progress against four risks to value for money highlighted through these reports. We examine: whether the contract design incentivised strong performance and value for money; whether the NDA deployed adequate capacity and capability to manage the contract; whether the NDA was effective in tackling underperformance; and whether it had an adequate understanding of the condition of the sites and the work carried out by CFP.

Our evidence base

See Appendix Two.

Our conclusions

In March 2017, the NDA faced a challenging set of circumstances after the failure of the original Magnox contract. Since then, it negotiated a revised contract with CFP, avoided further litigation and succeeded in maintaining a working relationship with its supplier that led to the completion of £2.72 billion of decommissioning work before the contract ended in August 2019.

But there has been a cost to the NDA and the taxpayer in addition to those we reported in 2017 as a consequence of the flaws in its strategy when it let the original Magnox contract in 2014. The NDA estimates that its revised contract included a termination cost of £20 million to negotiate its early exit from the contract and incentivise a smooth handover of sites without further legal challenge. The results of the NDA’s recent work to update the decommissioning programme for the Magnox sites shows that there remains significant uncertainty around its cost, with current estimates ranging from £6.9 billion to £8.7 billion. With the NDA now taking more direct control over the management of its sites, it will be critically important that it builds and retains better knowledge of the condition of its sites to enable it to plan and deliver decommissioning work efficiently and effectively. The NDA considers that it will be better placed to achieve this under its revised delivery model, but it is too early for us to assess the effectiveness of these arrangements.

Appendix Two

Our evidence base

1 We reached our independent conclusions after analysing a variety of evidence sources collected between December 2019 and June 2020. Our audit approach is outlined in Appendix One.

2 In designing and carrying out our work, we took account of previous relevant National Audit Office reports including our 2017 report: *The Nuclear Decommissioning Authority's Magnox contract. We also considered the Committee of Public Account's 2018 report The Nuclear Decommissioning Authority's Magnox contract*.[15]

3 We interviewed key individuals from the Nuclear Decommissioning Authority (NDA), UK Government Investments (UKGI), Cavendish Fluor Partnership (CFP) and the Office for Nuclear Regulation (ONR). The people we interviewed included:

- representatives from the NDA executive team and senior staff who had formal decision-making powers and oversight of the work;
- the NDA's internal audit team and members of the site facing team who had responsibility for managing the contract on a day-to-day basis;
- officials from UKGI who supported the Department for Business, Energy & Industrial Strategy's (The Department's) oversight of the NDA's work during that time; and
- executives and senior staff from CFP with responsibility and oversight of the work to negotiate the renegotiated contract and undertake the work;

4 We reviewed relevant documents including:

- a sample of 11 milestone claim documents and evidence of the NDA's assessment of these;
- minutes and papers from NDA executive meetings and NDA Board meetings;
- minutes and papers from meetings between NDA and CFP executives to review CFP's progress under the contract;

15 Comptroller and Auditor General, *The Nuclear Decommissioning Authority's Magnox contract*, Session 2017–2019, HC 406, National Audit Office, October 2017.

- assurance reviews conducted by NDA internal audit and independent review panels;
- project assessment review papers by the Infrastructure and Projects Authority; and
- NDA submissions to the Treasury Approvals Panel and the Department's Project Investment Committee.

5 In reaching our independent views, we are aware of the following limitations to our review of the NDA's progress against the four risks to value for money:

- In assessing the NDA's assurance of the work carried out by CFP on the sites, we did not undertake a full review of the NDA's assurance activity during this period. Our review was limited to examining 11 milestones to assess the NDA's processes, and its challenge and oversight of the work carried out by CFP on the sites before agreeing to pay fees.
- In assessing the NDA's progress to increase its capacity to manage the contract, we reviewed staffing figures and the NDA's recruitment to executive positions since the NDA terminated the original Magnox contract. We did not undertake a complete review of the NDA's commercial capability due to the significant challenges of undertaking this work within the timeframes available for this review.
- In assessing the design of the renegotiated contract, we did not undertake a review to establish whether the milestones, termination states and performance-based incentives materially differed between the original Magnox contract and the renegotiated contract. This would require in-depth subject matter knowledge that is outside of our remit.
- We did not review all the legal advice that the NDA received as part of its work to design, negotiate and manage the renegotiated contract.

Appendix Three

Glossary

Care and maintenance	‘Care and maintenance’ is a stage during the decommissioning process where reactors and waste stores are sealed and the site kept secure for a period of time to allow radiation levels to naturally decay over time. The Nuclear Decommissioning Authority (NDA) says this will result in simpler and more-cost effective decommissioning in the final stages.
Budgeted work plan	Budgeted work plan – or what the NDA calls the “lifetime plan”– the overarching programme plan or combination of plans describing the totality of activities required to take the sites from their current states to their respective final end states. It is an evolving document and Cavendish Fluor Partnership (CFP) retained content control.
Defective performance notice (DPN)	A DPN is formal contractual measure for dealing with performance issues set out in the contract.
Fee opportunity	The total fee available to be paid to CFP if all milestones are completed before the end of the notice period.
Final fee payments	The payment made to CFP for the work carried out on the sites by 31 August 2019. This is related to the proportion of milestones, termination states completed and the performance-based incentives.
Magnox Ltd	Magnox Ltd is a nuclear decommissioning site licence company (SLC). It derives its licence to operate from the Office for Nuclear Regulation (ONR). The Magnox contract awarded the management of Magnox Ltd to CFP. After the termination of the Magnox contract, Magnox Ltd became a subsidiary of the NDA in September 2019.
Magnox site	Magnox is a type of nuclear power/production reactor. There are 10 sites with Magnox reactors and two research sites. The 12 sites are included in the Magnox contract.
Material variation	A legal term to describe the contract varying significantly from the time it is awarded, either in terms of value or scope. Effectively, it means that any other bidder could raise a legal challenge to either force a new competition or suggest that it would have competed had it realised that these were the terms of the contract. This risk did materialise in the original contract and was the primary reason that the contract was terminated.

Milestones	A deliverable as set out in the NDA approved plan. These were linked to payment of fees to CFP. If a milestone was not completed fully then a proportion of the fee could be paid equivalent to the proportion of work that was completed.
Nuclear Decommissioning Authority (NDA)	The NDA is a non-departmental public body created through the Energy Act 2004. It owns 17 sites across England, Wales and Scotland and hase a strategic role with establishing overall approach, allocating budgets, setting targets and monitoring progress. It reports to the Department for Business, Energy and Industrial Strategy (the Department)
Office for Nuclear Regulation (ONR)	The ONR is responsible for regulation of nuclear safety and security across the UK.
Parent Body Organisation	A parent body organisation is a private sector consortium that owns the shares of the site licence company for the contract term and provides strategic management. In the case of Magnox, CFP acted as the parent body organisation, managing the Magnox SLC.
Performance Agreement Form (PAF)	The form which details the requirements for milestone and PBI completion.
Performance-based incentives (PBIs)	Performance Based Incentives were primarily used to incentivise the contractor to maintain high standards of performance throughout the notice period. There is a maximum fee per contract year.
Site Assessment Group	The team involved in undertaking site-level assurance activities within the NDA.
Site-facing team	The team within the NDA who managed the contract day-to-day. They provide oversight of the implementation of the budgeted work plan; and agree change controls and fee payments.
Site Licence Company (SLC)	A site licence company holds the nuclear site licence, granted by the Office for Nuclear Regulation, to operate the nuclear site(s).
Notice period	The NDA terminated its contract with CFP with a two-year notice period effective between 1 September 2017 and 31 August 2019.
Termination state	The termination states detailed the physical state that each site was planned to be in on the termination date (31 August 2019).
UK Government Investments (UKGI)	UKGI is the government's centre of excellence in corporate finance and corporate governance. UKGI support and have oversight of the NDA performance and governance on the Department's behalf.

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