

Mobile radio network services

Final Report

5 April 2023



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The Competition and Markets Authority has excluded from this published version of the report information which the inquiry group considers should be excluded having regard to the three considerations set out in section 244 of the Enterprise Act 2002 (specified information: considerations relevant to disclosure). The omissions are indicated by [X] Some numbers have been replaced by a range. These are shown in square brackets.

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Summary

Background

1. It is critical that emergency services staff are able to communicate effectively with each other, with staff at base and with other organisations involved in tackling an emergency. That is essential for them to do their job and to protect their safety and that of the general public.
2. The emergency services require communication network services that are reliable 24 hours a day, 365 days a year; that enable them to communicate across regional boundaries and organisations; that provide coverage even in remote and hard to reach locations; and that include specialist features such as high speed call set up, emergency buttons, encryption, group calls and ambient listening.
3. In Great Britain, those communication services are provided through a bespoke integrated network called the Airwave Network. It uses Land Mobile Radio (LMR) technology developed specifically for public safety and is fully dedicated to serving the emergency services and organisations which need to communicate with them.
4. The Airwave Network's users belong to one of five customer groups, each with its own specific set of requirements. They are: 44 police forces; 50 fire and rescue services; 14 ambulance trusts; the National Police Air Services; and 165 other organisations (described as 'Sharer' organisations), such as the Maritime and Coastguard Agency, who need to communicate with the emergency services.
5. The Airwave Network was set up under a Public Finance Initiative (PFI) Agreement made with the Police Information Technology Organisation (subsequently replaced by the Home Office) in 2000 following a public procurement exercise. That agreement was originally set to end after 19 years, around 2019. Services are provided under the terms of separate agreements that were entered into with individual emergency services user groups in subsequent years. The network is owned and operated by Airwave Solutions (which was acquired by Motorola in 2016).
6. As a bespoke integrated network fully dedicated to emergency services communications covering the whole of Great Britain, the Airwave Network is operated by a single supplier. No alternative network providing similar services exists.
7. In 2014/15, the Home Office conducted a further procurement exercise for the provision of a new upgraded network, with enhanced functionality, to replace the Airwave Network, called the Emergency Services Network (ESN). That replacement was originally intended to happen in or around 2020, but it has not yet taken place.

Our market investigation

8. Market investigations are about whether competition is working effectively in the market as a whole.¹ Their aim is to examine whether there is a competition problem (an 'adverse effect on competition' or AEC) caused by features of the market and, if so, to consider whether to remedy it and/or its detrimental effects. We can intervene and impose remedies even where no specific law has been broken if we identify an AEC.²
9. In this case, we have identified the relevant market as the supply of communications network services for public safety and ancillary services in Great Britain. We refer to it in this final report as the market for 'the supply of communications network services for public safety.'
10. We have considered how competition can occur in that market. Building a bespoke integrated network of the kind required meant that a single supplier³ would be best placed to meet the emergency services' needs under long-term contracts. Under such contracts, the supplier could recoup the large upfront investment required to build the network, and have the chance to earn an estimated rate of return, over the life of the contracts.
11. Competitive constraints on suppliers in this market, therefore, typically arise through 'competition for the market'. It can occur when long-term contracts are first tendered and when they expire (or, more specifically, in anticipation of their expiry when a replacement network or a retendering of the existing network is competed for).
12. In a well-functioning market, we would expect one set of competitive arrangements to be replaced by another when such long-term contracts come to an end. That could, for example, be the replacement of the existing arrangements by:
 - (a) a competitively priced continuation of the operation of the existing network infrastructure (secured, for example, under a retendering process facilitated by the transfer of the assets to the Home Office,⁴ or by the threat of such a process); or
 - (b) a competitively priced new network (for example, one tendered under a new process), that could use new technology and offer enhanced functionality.
13. We have therefore assessed whether this has occurred and, if not, why not.

¹ [Guidelines for market investigations: Their role, procedures, assessment and remedies \(CC3 \(Revised\)\)](#), paragraph 18 (Guidelines).

² [Guidelines](#), paragraph 21.

³ Or a group of suppliers offering a single service.

⁴ Or a third party.

Our findings

14. In our assessment, the terms of the PFI Agreement under which the Airwave Network operates resulted from the type of process – tendering – that we might expect to provide competition for the market. In relation to the original period of the PFI Agreement, the Home Office had the opportunity to run an open competition for a supplier and, as a result, to agree terms that constrained the price of the provision of the network.⁵ In such a competition, the winning supplier would reasonably have been expected to set the price at a level that would enable it to cover its expected costs and give it the chance to earn a reasonable return for the period of the contract.
15. The PFI Agreement⁶ that resulted from the original procurement exercise was for a fixed term ending in 2019.⁷ It provided for a contract price designed to recoup the supplier's upfront investment in building the network and offer it the possibility of earning an estimated rate of return over that period, but not beyond. It contained provisions which sought to deal with the end of the contract and the transfer of assets to the Home Office (or a third party). It did not contain terms relating to or contemplating its extension. The relevant provisions were therefore generally the type of terms we might expect to find in a well-functioning market up to 2019 (albeit that they were not all necessarily fully effective in achieving their objectives).
16. The position now that the original period of the PFI Agreement has ended, however, is materially different. Our assessment is that the terms on which the Airwave Network is provided after 2019 are better characterised as reflecting a virtually unconstrained monopoly position on the supplier's part rather than the result of a competitive process.
17. Instead of being set through a competitive process, prices are established (or maintained without significant variation from previous levels) in bilateral negotiations between Airwave Solutions (the monopoly supplier) and its owner, Motorola, and the Home Office⁸ relating to the extension of the PFI Agreement. In those negotiations the Home Office has no credible⁹ alternative option in terms of its choice of supply or supplier.

⁵ Although, as described in later sections of this final report – and in Appendix B– there were some limitations on the extent of the competition that applied and the competitiveness of the outcome, and the National Audit Office reported on these.

⁶ The associated service contracts were also for fixed terms.

⁷ Once all related contract end dates were aligned.

⁸ Acting on behalf of all emergency services.

⁹ We use the term 'credible' to describe options which the Home Office would be in a position in practice to pursue or threaten to pursue, and / or which Motorola would regard as a threat to its ability to set prices, such that the price is likely to be constrained to the competitive level.

18. The terms on which the network is supplied, particularly the price, have not materially changed as we would expect in a competitive market to reflect that, now the original period of the PFI Agreement has ended:
- (a) The costs of providing the Airwave Network will have fallen significantly compared with the previous period where the supplier had to incur the substantial set-up costs of building the network;¹⁰ and
 - (b) the risk borne by the supplier is much reduced after 2019 because the network is built and is operating as a reliable income stream.
19. In other words, after 2019 the terms of the (extended) PFI Agreement do not result in a price or a level of profitability that would be expected in a well-functioning market. This is reflected in the generation of supernormal profits after the original period of the contract.¹¹
20. Key reasons for the present position, in our assessment, are that:
- (a) The network for emergency services communications is critical national infrastructure providing services on which lives ultimately depend, so the Home Office and the emergency services users¹² must have continuous and reliable access to a high-quality integrated network that meets their operational needs, without disruption or degradation;
 - (b) the asset transfer provisions in the PFI Agreement have not resulted in the transfer of network assets to the Home Office, Airwave Solutions continues to own them and acquiring them is not an option the Home Office could credibly pursue or threaten; and
 - (c) the government's chosen replacement for the Airwave Network, ESN, is taking considerably longer to implement than was contemplated: (i) when it was procured; and (ii) in 2016 when the parties first negotiated terms that relate to the provision of the Airwave Network after 2019.
21. As a result, the Home Office and the emergency services in Great Britain are 'locked in' to a monopoly provider, Airwave Solutions, and will be in that position until at least 2026, likely until 2029 and possibly longer.
22. Our judgement is that Airwave Solutions and its owner, Motorola, now have considerable market power. In the negotiations between Airwave Solutions and

¹⁰ This remains the case notwithstanding an offer Motorola made to the Home Office in July 2022 to reduce the price and which the Home Office did not accept (see Section 4 of this final report in particular).

¹¹ Supernormal profits are profits which take into account all costs including a market-based return to the providers of capital on their investment. They are also called economic profits. Very broadly, supernormal profits are the element of profits over and above the normal amount we might expect to be made in a well-functioning market.

¹² As well as the Sharer organisations.

the Home Office relating to the continued provision of the Airwave Network beyond 2019, there is a lack of constraint or pressure on the price that would result in it being set at the competitive level. The Home Office is in a particularly weak bargaining position. Airwave Solutions / Motorola can set and maintain a price substantially above the level we would expect in a well-functioning market.

23. Other factors reinforce Airwave Solutions' and Motorola's market power and the weakness of the Home Office's bargaining position:
- (a) The fact that, in any negotiations, they are negotiating against the default option of the price agreed in 2016, which is very advantageous to Airwave Solutions and Motorola and correspondingly disadvantageous to the Home Office;
 - (b) the Airwave Network's dependence on Motorola for equipment and upgrades for its ongoing operation;
 - (c) the asymmetry of information between the parties; and
 - (d) the likely ineffectiveness of the original contractual provisions relating to price benchmarking (and the lack of reliable comparators that make any benchmarking exercise practically very difficult (if possible at all)).
24. As well as being dependent on the continued provision of the network by Airwave Solutions / Motorola, without disruption or degradation, the Home Office's ability to challenge the terms they propose or maintain is very substantially limited. The Home Office is not in a position to assess the profitability of any price and effectively to challenge its reasonableness. Not only does the Home Office lack bargaining power in the negotiations, but it is not in a position reliably to determine whether, or the extent to which, Airwave Solutions is charging or maintaining (or seeking to charge or maintain) prices that result in supernormal returns.
25. A further issue adds to the competitive distortions in the market. During the period (estimated to be at least 27 months) in which the transition between them will gradually take place, the Airwave Network and ESN will need to be linked.¹³ This will occur by 'interworking', which will support communications between users as they switch networks at different times.
26. The development of an interworking solution relies on Airwave Solutions' and Motorola's active cooperation. As a result, they have the ability to delay, hamper and/or make more costly the development of any such solution and the transition process.¹⁴ The competition issues described in paragraphs 12 to 24 above in

¹³ Because of the critical nature of network communication services for public safety and the length of the transition period.

¹⁴ Notwithstanding the contractual arrangements they have made with the Home Office in this connection which place some constraints on this ability (see paragraph 41 below).

particular, and the high profits they can make if the transition from the Airwave Network is delayed, meanwhile, dull their incentives effectively and efficiently to help to deliver such a solution.

AEC in the relevant market

27. Taking all of the above points into account,¹⁵ we find that features of the market for the supply of communications network services for public safety, individually or in combination, prevent, restrict or distort competition in connection with the supply of LMR network services for public safety in Great Britain. There is, in our view, an AEC in that market.
28. The relevant features, which mean that Airwave Solutions, and its owner, Motorola, have unilateral market power and are able, as described further below, to charge prices significantly above the level we might expect in a competitive market and to make supernormal profits, are:
- (a) The Airwave Network is a critical piece of infrastructure on which the emergency services in Great Britain, and ultimately lives, depend.
 - (b) The Airwave Network is the only network of its kind in Great Britain and is provided by a monopolist. No other such networks exist nor are they likely to be constructed and ready for use before ESN (or an alternative network) is able to replace it.
 - (c) The Airwave Network assets have not transferred to the Home Office under the terms of the PFI Agreement, Airwave Solutions still owns them (and the related business) and the transfer of those assets is not a credible option that the Home Office could either pursue or threaten to pursue.
 - (d) The Home Office has tendered and contracted for a replacement network – ESN – but it is taking much longer than anticipated to deliver and replace the Airwave Network. ESN will not be ready until at least 2026, likely 2029 and possibly later.
 - (e) The Home Office and the emergency services in Great Britain are locked in with the incumbent supplier of communications network services – Airwave Solutions (and Motorola) – beyond the period over which prices were, or should have been, constrained by the terms of the PFI Agreement (and Airwave Solutions should have recouped its investment and had a chance to earn a reasonable return).
 - (f) The Home Office has very weak bargaining power.

¹⁵ And as more fully described in this final report.

- (g) There is asymmetry of information between the parties.
- (h) There is a lack of effective constraints provided by the terms of the PFI Agreement on the price of the provision of the network after 2019, including the benchmarking provisions which are likely to be ineffective.

29. A further feature strengthens and has the potential to prolong the unilateral market power described above. That is the role of interworking in the transition between the Airwave Network and ESN, which Airwave Solutions and Motorola are able and incentivised to delay, hamper and/or make more costly. This additional feature adds to the AEC we have found, but is not determinative of it. The AEC exists even without this feature.

Customer detriment

30. Our estimate is that the AEC we find means that Airwave Solutions, and Motorola, can be expected to make total supernormal profits from the operation of the Airwave Network of around £1.27 billion between 1 January 2020 and 31 December 2029. This is equivalent to charging almost £200 million per year more than we would expect to see in a well-functioning market.¹⁶ Supernormal profits they would be able to generate by making interworking more costly would be additional to this.
31. These supernormal profits are a reflection of Airwave Solutions' and Motorola's ability to set and maintain prices very substantially above the competitive level. The Home Office and the emergency services in Great Britain are paying a much higher price than we would expect were the market competitive. That enables Airwave Solutions to contribute around 21% of Motorola's global pre-tax profits while accounting for only around 7% of its global revenues.¹⁷
32. The supernormal profits are, in our view, a reasonable measure of the transfer of welfare from the emergency services, and the taxpayers who fund them, to Motorola shareholders that results from the AEC we have identified. They indicate that a significant detrimental effect on customers results from that AEC.

Remedies

33. We have considered the remedies that are effective and proportionate to address our concerns about Airwave Solutions' and Motorola's unilateral market power. Our preference in market investigations is normally to seek to identify remedies that

¹⁶ See section 6 of this final report.

¹⁷ Motorola Solutions, Inc Earnings Release and Financial Tables for the year ended 31 December 2021 [msi-q4-2021-earnings-release-and-financial-tables.pdf \(motorolasolutions.com\)](https://www.motorolasolutions.com/~/media/MSI/q4-2021-earnings-release-and-financial-tables.pdf), Airwave Solutions Limited Annual Report and Financial Statements for the year ended 31 December 2021. Based on HMRC average \$:£ exchange rate for the year ended 31 December 2021 of 0.7259.

address or remove the features giving rise to the AEC.¹⁸ In this case, however, our view is that such remedies are limited where a number of the features of the market, such as the criticality of the Airwave Network and its provision by a single supplier, and the Home Office's dependence on it until ESN (or any alternative network) is ready, will continue to exist.

34. The main remedy we have decided to impose therefore focuses on mitigating the detrimental effects on customers of the AEC we have identified. It is a charge control on the price for which Airwave Solutions provides the Airwave Network and services.
35. We also make a recommendation to the Home Office that it should, as soon as possible, develop and implement a plan to ensure that, by not later than the end of 2029, the supply of communications network services for public safety is subject to:
 - (a) Competitive pricing arrangements; or, if this is not feasible,
 - (b) measures to similar effect (for example, through putting forward legislation to introduce a regulatory function).
36. The charge control will limit the price of the Airwave Network services at a level that would apply in a competitive market. It will, in our judgement, mitigate the detrimental effects on customers (the emergency services and ultimately taxpayers) from Airwave Solutions' and Motorola's market power. To the extent they will no longer be earning supernormal profits, the charge control will also reduce Airwave Solutions' and Motorola's incentives to delay the delivery of an interworking interface solution and thereby prolong the operation of the Airwave Network.
37. The charge control will commence this year. It will be subject to a review in 2026 that may result in its continuation, variation or removal. Subject to that review, it will continue until 31 December 2029.
38. The recommendation to the Home Office recognises that, while the charge control is necessary to mitigate the detrimental effects of the AEC over the period specified, it does not remedy that effect at source (for example, by removing the features of the market we have identified). The recommendation accordingly takes account of ways the AEC itself might be addressed.
39. The recommendation reflects that the Home Office is: (i) the key customer in the relevant market; and (ii) the government department responsible for procuring the replacement for the Airwave Network and / or establishing the arrangements under which a relevant network is provided. During the period when the price of the Airwave Network services is limited by the charge control (where otherwise it would not be constrained to a competitive level), the Home Office should ensure that the

¹⁸ [Guidelines](#), paragraph 330.

supply of communications network services for public safety becomes subject to competitive pricing arrangements, or measures to similar effect, over the longer term. That would offer the possibility of addressing the source of Airwave Solution's / Motorola's market power. The Home Office needs to make and execute an effective plan, with appropriate resourcing and programme management processes, to achieve these objectives.

40. Finally, although we find that the position in relation to interworking adds to the AEC, we have decided not to impose the interworking remedy proposed in our provisional decision report (nor any other remedy in relation to interworking).
41. We have taken into account that the charge control will materially reduce Airwave Solutions' / Motorola's incentives to behave in ways that might prolong the life of the Airwave Network. We have considered whether any additional interworking remedy would be effective and proportionate in that context, and decided not. We have also taken into account that Motorola and the Home Office have now entered into a contractual arrangement relating to interworking (the Interface Agreement) that substantially mitigates Airwave Solutions' and Motorola's ability to delay, hamper or make more costly the transition to ESN.
42. Nonetheless, we intend to keep the development of the market under close scrutiny, including as part of the charge control review in 2026. If there is not a successful outcome on interworking, it may be appropriate for the CMA to revisit our assessment.

1. OUR TASK

Introduction

- 1.1 On 25 October 2021, the Competition and Markets Authority (CMA), exercising its powers under sections 131 and 133 of the Enterprise Act 2002 (the Act),¹⁹ made a reference for a market investigation into the supply of Land Mobile Radio (LMR) network services for public safety (including all relevant ancillary services) in Great Britain. This followed a consultation that began on 8 July 2021.
- 1.2 On 25 October 2021, the CMA appointed from its panel a group of four independent members to lead the investigation (the Group).²⁰
- 1.3 On 19 October 2022, we published our provisional decision report (PDR), inviting the Home Office, Motorola and other interested parties to respond to our provisional findings and proposed remedies.
- 1.4 This final report sets out the findings of our investigation and our decision on remedies based on the evidence we have reviewed and the analysis we have carried out in the course of our investigation.

Our statutory duty

- 1.5 We are required to decide whether ‘any feature, or combination of features, of each relevant market prevents, restricts or distorts competition in connection with the supply or acquisition of any goods or services in the United Kingdom or a part of the United Kingdom’.²¹ If we decide that there are such features or combination of features, then there is an adverse effect on competition (AEC).²² A ‘feature’ of the market refers to:
 - (a) the structure of the market concerned or any aspect of that structure;
 - (b) any conduct (whether or not in the market concerned) of one or more than one person who supplies or acquires goods or services in the market concerned; or
 - (c) any conduct relating to the market concerned of customers of any person who supplies or acquires goods or services.²³

¹⁹ [The Act](#), sections [131](#) and [133](#).

²⁰ Details of the members of the Group are on our [website](#).

²¹ [The Act](#), section [134\(1\)](#). For present purposes, ‘relevant market’ means a market in the United Kingdom for goods or services of a description specified in the reference ([the Act](#), section [134\(3\)\(b\)](#)).

²² [The Act](#), section [134\(2\)](#).

²³ [The Act](#), section [131\(2\)](#).

- 1.6 If we find that there is an AEC, we are required to decide:
- (a) whether action should be taken by us, or whether we should recommend action to be taken by others, for the purpose of remedying, mitigating or preventing the AEC concerned or any detrimental effect on customers²⁴ so far as it has resulted from, or may be expected to result from, the AEC;
 - (b) and, if so, what action should be taken and what is to be remedied, mitigated or prevented.²⁵
- 1.7 In deciding the above questions on remedies, we must, in particular, have regard to ‘the need to achieve as comprehensive a solution as is reasonable and practicable to the adverse effect on competition and any detrimental effects on customers so far as resulting from the adverse effect on competition’;²⁶ and we may, in particular, have regard to the effect of any action on any relevant customer benefits of the feature or features of the market(s) concerned.²⁷

Background to the reference

- 1.8 Prior to making the reference, the CMA consulted on whether to make a market investigation reference (MIR) into the mobile radio network for the police and emergency services.²⁸ The consultation provisionally considered that the market for the supply of the Airwave Network – a secure private mobile radio communications network used by personnel involved in public safety operated by Airwave Solutions Limited (Airwave Solutions) – in Great Britain was not working well. During the consultation period, the CMA gathered and assessed evidence received from Motorola and the Home Office.
- 1.9 Further to its consideration of the consultation responses, the CMA concluded that it had reasonable grounds to suspect that one or more features (alone or in combination) in relation to the supply of LMR network services for public safety (and ancillary services) in Great Britain was preventing, restricting or distorting competition. It considered, amongst other factors, that there was a reasonable chance that appropriate remedies would be available, if an AEC was found.

²⁴ [The Act](#), section [134\(5\)](#): there is a detrimental effect on customers if there is a detrimental effect on customers or future customers in the form of: (a) higher prices, lower quality or less choice of goods or services in any market in the United Kingdom (whether or not the market(s) to which the feature or features concerned relate); or (b) less innovation in relation to such goods or services.

²⁵ [The Act](#), section [134\(4\)](#).

²⁶ [The Act](#), section [134\(6\)](#).

²⁷ [The Act](#), section [134\(7\)](#).

²⁸ For more details see CMA (2021), [Consultation on the proposal to make a market investigation reference into the mobile radio network for emergency services](#).

- 1.10 Consequently, on 25 October 2021, the CMA decided to make an ‘ordinary’ MIR within the meaning of section 131(6) of the Act in respect of the supply of LMR network services for public safety (and ancillary services) in Great Britain.²⁹
- 1.11 On 22 December 2021, Airwave Solutions, Motorola Solutions UK Limited and Motorola Solutions, Inc. made an application for judicial review under section 179 of the Act challenging the CMA’s decision to make the MIR and the timetable by which the reference was to be determined. On 2 February 2022, the Competition Appeal Tribunal (CAT) rejected the two challenges brought by the applicants.³⁰

Conduct of the investigation

Terms of reference

- 1.12 The terms of reference for the MIR³¹ reflected the conclusions described in paragraphs 1.9 and 1.10 above. They also recorded that for the purposes of the MIR:
- (a) ‘LMR network services for public safety’ means – services provided through a secure private communications network, based on land mobile radio technology, that is used by personnel involved in public safety (namely the police, emergency and fire services, and those who need to communicate with such services) when in the field; and
 - (b) ‘ancillary services’ means – services that are interlinked with the provision of LMR network services for public safety and for which customers have limited alternative suppliers including for example services such as those provided at the testing facilities for radio terminals used by LMR network public safety users.

Focus of the investigation

- 1.13 The CMA’s Supplemental Guidance on market studies and market investigations states that, in addition to drafting the formal terms of reference for the market investigation, the CMA Board may append an advisory steer to the MIR decision setting out its expectations regarding the scope of the market investigation and the issues that could be the focus of it.³²
- 1.14 The CMA Board’s advisory steer to the Group in this case summarised features of the market that the CMA had reasonable grounds to suspect may prevent, restrict

²⁹ CMA (2021), [Final report and decision on a market investigation reference](#).

³⁰ [Airwave Solutions Limited & Others v CMA \[2022\] CAT 4](#).

³¹ [Terms of Reference](#), 25 October 2021.

³² [Market studies and market investigations: supplemental guidance on the CMA’s approach \(CMA3\)](#), revised July 2017 (the Supplemental Guidance), paragraph 3.39.

or distort competition. It said that the central concern arising from the work carried out in advance of the market investigation was that Motorola could have a significant level of market power, and that, as long as the Airwave Network was in operation, it might be able to derive significant levels of excess profits from the exercise of its market power. The burden of any excess profits made by Motorola ultimately fell on the taxpayer.³³ While the Group would be expected to take this steer into account, the Group has, as required by the legislation, made its statutory decisions independently of the CMA Board.

Evidence gathering

1.15 We gathered evidence in a variety of ways, including through:

- ‘First Day Letters’ issued to Motorola and the Home Office.
- Formal and informal written requests for information to Motorola, the Home Office and other parties (including the Ambulance Radio Programme, EE, the National Fire Chiefs Council, Police Scotland, the Scottish Ambulance Service, the Scottish Fire and Rescue Service, the Senior user for Firelink and Emergency Services Mobile Communication Programme (ESMCP) for Wales, and the Metropolitan Police Service).
- Video conference calls with parties (including Actica Consulting (Actica), Ericsson, IBM, ThoughtWorks and a former Motorola Programme Director) to understand the context of reports, submissions and statements they had made in relation to ESN, and with the Home Office to discuss its interworking submission.³⁴

1.16 We obtained a large number of internal documents and data from both Motorola and the Home Office covering a range of areas, including in relation to:

- Financial information including information on revenue streams, operating expenditure (opex), transfer charges, capital expenditure (capex), modern equivalent asset valuation, and cost of capital.
- Negotiations between the Home Office and Motorola including detailed records of meetings, email exchanges, internal assessments of negotiating positions, and strategy documents.
- ESN, including internal documents setting out Motorola’s business strategy, rationale and incentives at the time of Motorola’s acquisition of Airwave

³³ [CMA Board Advisory Steer](#), 25 October 2021, paragraph 6.

³⁴ [Interworking submission on behalf of the Home Office](#), 28 April 2022.

Solutions, ESN delays and re-planning, interworking, and the Home Office's calculations on the cost of ESN.

Specialist advice and evidence

1.17 Following a competitive tender process, we appointed the following organisations to assist us in our market investigation:

- Real Wireless, an advisory firm specialising in providing advice in relation to wireless spectrum, infrastructure and technology equipment, has provided assistance in relation to our understanding of technical issues regarding telecoms technology, as well as in relation to the capex and cost programmes being considered as part of the market investigation.
- Kroll, a consultancy providing proprietary data and technology insights, has provided assistance in relation to our understanding of tax and transfer pricing matters being considered as part of the investigation.

1.18 During the course of the investigation the following persons were also asked to assist our investigation in an advisory capacity:

- Professor Alan Gregory, who provided advice on our profitability and cost of capital analysis.
- John Earwaker, Director at First Economics, who provided advice on the potential design of a price control remedy.

1.19 The Independent Assessment Panel (IAP), a body established in February 2019 to provide assurance and advice to the Home Office Permanent Under-Secretary of State, the Infrastructure and Projects Authority, the National Audit Office (NAO), and the Senior Responsible Officer of the ESMCP programme, provided evidence to the CMA on the technological context of the programme.

Consultation on our emerging analysis

1.20 In December 2021, we published an issues statement³⁵ outlining our initial theories concerning which features, if any, might be adversely affecting competition and which potential remedies might be suitable to address any AEC if one were to be identified or any detrimental effect resulting from any such AEC. We invited parties to provide submissions commenting on the issues and possible remedies. We published non-confidential versions of the responses to the issues statement that we received on our case page.³⁶

³⁵ [Issues Statement](#), 13 December 2022.

³⁶ See [Mobile radio network services](#).

- 1.21 In December 2021, we published a profitability methodology approach working paper. The purpose of this paper was to set out our proposed methodology in relation to financial and profitability analysis, and to set out illustrative analysis and results adopting this approach using the financial information we had collected at the time.
- 1.22 In May 2022 we published five working papers and an overview of unpublished working papers (which explained that some working papers, due to the potential commercial sensitivity of the analysis within them, were being disclosed to Motorola only or to Motorola and the Home Office only, rather than being published on our case page). The working papers set out our understanding of relevant factual matters at that time and some emerging views. They gave parties an opportunity to comment upon that understanding and also invited parties' comments and any further evidence for consideration by the Group conducting the investigation. We published non-confidential versions of the responses we received to some of these working papers on our case page and produced and published an aggregated summary of responses for the papers that were disclosed to Motorola and the Home Office.³⁷

Engagement with stakeholders

- 1.23 We engaged with various stakeholders during the investigation to seek factual material and evidence, as well as their input and views on relevant issues. These are important parts of the investigation designed to enable the Group to form views on the basis of correct facts and in light of relevant evidence.
- 1.24 We held hearings with the Cabinet Office, Deloitte, the Home Office, the IAP and Motorola. Summaries of these hearings were published on our case page.³⁸
- 1.25 In addition, we attended a site visit and presentation at the premises of Airwave Solutions and also attended a presentation provided by the Home Office.

Specific engagement with Motorola and the Home Office

- 1.26 Motorola and the Home Office are parties in possession of key factual knowledge, material and evidence relevant to this market investigation:
- (a) In Motorola's case, it owns Airwave Solutions, the operator of the Airwave Network, and Motorola's business interests are adversely affected by the decisions set out in this final report.
 - (b) Since 2016, the Home Office has negotiated changes to contract terms, on behalf of the key groups of customers, with Motorola and Airwave Solutions

³⁷ See [Mobile radio network services](#).

³⁸ See [Mobile radio network services](#).

for access to the Airwave Network which constitutes a piece of critical infrastructure for the emergency services in Great Britain.

- 1.27 Given these facts, we took a number of steps prior to the publication of the PDR to ensure that Motorola and the Home Office had the opportunity to present all material facts to the Group and that they were both able to make submissions in support of their respective positions. Those opportunities included:
- (a) With regard to Motorola, the request for an initial submission (in response to the CMA's decision on MIR).³⁹
 - (b) With regard to Motorola and the Home Office, an invitation to respond to our issues statement, and an opportunity for Motorola to provide a supplementary submission on remedies (to address Motorola's lack of engagement with this aspect of our issues statement).
 - (c) With regard to Motorola and the Home Office, a first hearing with each party in which we explored the range of issues that we had highlighted in our issues statement.
 - (d) With regard to Motorola, a second hearing, which it requested, for which it set the agenda and at which its staff provided evidence of their personal commitment to the delivery of ESN.
 - (e) With regard to Motorola and the Home Office, the opportunity to respond to our working papers as described above.
- 1.28 As is our standard practice, our working papers set out our understanding of relevant facts, thereby providing parties with an opportunity to make detailed submissions on specific facts and our assessment of them. Motorola and the Home Office made submissions in relation to the working papers and we took those submissions into account.

Consultation on our provisional findings

- 1.29 On 19 October 2022, we published our PDR, inviting the Home Office, Motorola and other interested parties to respond to our provisional findings and proposed remedies. We held further Hearings with the Home Office (in December 2022) and Motorola (in January 2023) in which we explored a range of issues raised in the PDR and the responses to the PDR received from the Home Office, Motorola and other interested parties. We have considered all submissions we received in response to the PDR (and subsequently submitted by the Home Office and

³⁹ CMA (2021), [Final report and decision on a market investigation reference](#).

Motorola in February and March 2023) and published non-confidential versions of those submissions and summaries of the Hearings on our case page.⁴⁰

Concerns raised by Motorola

1.30 In response to the PDR, Motorola raised a number of concerns about aspects of the process we have followed in our investigation. We address a number of specific points below.

1.31 One of Motorola's concerns was that, in making the MIR, the CMA had acted in direct contravention of its own policy.⁴¹ It referred to the MIR Guidance published by the Office of Fair Trading (OFT) and adopted by the CMA (the MIR Guidance),⁴² quoting part of paragraph 2.7 which says, 'It is not the present intention of the OFT to make market references based on the conduct of a single firm, whether dominant or not, where there are no other features of a market that adversely affect competition'.

1.32 We note both the final words of the quoted sentence and that the following paragraph 2.8 of the MIR Guidance says:

This general principle [ie that in paragraph 2.7] is subject to the following comments and qualifications:

In many cases anti-competitive conduct by a single firm may be associated with structural features of the market, for example barriers to entry or regulation and government policies, or conduct by customers which have adverse effects on competition. These other market features are discussed in sections 5 and 7 of this guidance. Where they are present a market investigation reference may be more appropriate than action under CA98 even though only a single firm appears to be conducting itself anti-competitively.

1.33 Sections 5 and 7 of the MIR Guidance refer to structural features of a market and the conduct of customers, respectively.

1.34 We make two observations in this connection. The first is that the point Motorola raises goes to the making of the MIR. We note above that it and Airwave Solutions applied for judicial review of the CMA's decision to make the reference. That was

⁴⁰ See [Mobile radio network services](#).

⁴¹ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraphs 2.33 and 2.34.

⁴² Office of Fair Trading (2006), Market investigation references: Guidance about the making of references under Part 4 of the Enterprise Act (OFT511).

their opportunity to raise this point. They did not do so and would now be out of time to make it.

- 1.35 The second is that, in any event, this investigation falls within the qualification cited above. The MIR and our investigation is concerned not just with Motorola's or Airwave Solutions' conduct but with other features of the market too and the question of whether they give rise to an AEC. The extensive analysis we have undertaken and set out in this report make that plain. The market investigation regime is applicable and there is no breach of the CMA's policy.
- 1.36 Turning to the conduct of our investigation, at all times we have had regard to the Guidelines for market investigations which state that 'investigations must not only be thorough and disciplined but also fair'. The Guidelines also state that the 'requirement for fairness includes giving the parties opportunities to understand the [CMA's] analysis affecting them; the [CMA] accordingly aims to be open and transparent in its work'.⁴³
- 1.37 The principles of fairness, openness and transparency have been adhered to throughout this investigation. This has included extensive consultation of potentially affected parties, the publication of non-confidential submissions, where required facilitating the provision of confidential information between the two main parties within a confidentiality ring and in following the steps outlined in paragraphs 1.26 to 1.28 above in respect of our engagement with both Motorola and the Home Office.
- 1.38 In its response to the PDR, Motorola stated that 'Motorola requested sufficient additional time to respond to this vast Provisional Decision, but the CMA was only prepared to allow a limited extension even though the Response Hearing is not scheduled until 7 weeks after the deadline'. Motorola further stated the 'CMA also seems to be hurtling towards a pre-determined desire to apply a draconian price control, even though this completely changes the economic bargain between the parties and is grossly unfair to Motorola'.⁴⁴
- 1.39 As set out in the rules of procedure published by the CMA Board,⁴⁵ the main party affected shall be allowed an opportunity to submit a reasoned response to the provisional findings in a market investigation and the deadline for such a response shall be no less than 21 days of the date on which the provisional findings are notified to that party.⁴⁶ This position is reflected in the Supplemental Guidance, which provides that 'the time allowed for the consultation will be no less than 21

⁴³ [Guidelines](#), paragraph 42.

⁴⁴ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraphs 1.5, 1.15.

⁴⁵ [CMA rules of procedure for merger, market and special reference groups March 2014 \(corrected November 2015\) CMA17](#) (CMA Rules). The CMA Rules are referred to in, and required by, paragraph 51 of Schedule 4 to the Enterprise and Regulatory Reform Act 2013.

⁴⁶ CMA Rules at paragraph 11.5.

days and the CMA applies some flexibility in setting reasonable deadlines case by case in light of the relevant circumstances.’⁴⁷

- 1.40 In this investigation, we published our provisional findings on 19 October 2022 and set a deadline of 9 November 2022 for responses. On 20 October 2022 we received a request from Motorola for an extension of a further 21 days. We considered the request in light of the further steps we were required to take when finalising our decision within the statutory deadline, including the need to hold Response Hearings and the potential need for consultation on any changes to the proposed provisional findings or remedies resulting from additional evidence provided by relevant parties. Having taken these factors into account, we allowed a 10 day extension to Motorola. Furthermore, we initially requested that Motorola attend a Hearing in December 2022. However, Motorola requested a Hearing date in January 2023 citing commitments within the business. We agreed to that request.⁴⁸ Motorola also made additional written submissions on matters raised in the PDR, both of its own volition and at our invitation, after the January 2023 Hearing, which we have taken into account.
- 1.41 In light of the above, we are satisfied that Motorola was afforded a reasonable amount of time to make, and in fact made, reasoned representations in response to the provisional findings set out in the PDR.⁴⁹
- 1.42 In its response to the PDR Motorola also said that it wished to ‘register its concerns as to whether the process and outcomes contemplated by the CMA is fair and impartial’. Motorola stated that, in its view, the CMA ‘systematically preferred the Home Office’s versions of events’ and that Motorola has ‘been unable to review the evidence that the CMA purportedly relies upon, since the CMA has refused to make this evidence available’⁵⁰ because ‘Motorola has been refused access to the CMA’s file.’⁵¹
- 1.43 At the outset, it should be noted that it is settled case law that there is no general right of ‘access to file’ within CMA market investigation proceedings,⁵² and the

⁴⁷ Supplemental Guidance at paragraph 3.59. See also Guidelines at paragraph 44(c).

⁴⁸ [Email from the CMA to Motorola](#), 1 November 2022

⁴⁹ We note that the CAT, in the context of working papers in a phase 2 CMA merger investigation, has held that while parties ‘[...] must be given a proper opportunity to digest the Working Papers and prepare their comments’, procedural ‘[f]airness does not require parties to a merger to be given as much time as they believe, from their own perspective, may be necessary for them to respond to any documents. The effect of the overall statutory timetable means that their responses may have to be less complete or thorough than they would wish.’ [Sainsbury plc and Asda Group Limited v CMA](#) [2019] CAT 1 at paragraphs 63 and 70. We consider that these considerations are also applicable in the context of a CMA market investigation.

⁵⁰ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraphs 7.1, 7.2, 7.3.

⁵¹ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraph 7.4.

⁵² [BMI Healthcare Ltd v Competition Commission](#) [2013] CAT 24 (‘**BMI**’) at paragraph 4.

CMA is not, as a general principle, obliged to disclose all inculpatory or exculpatory material.⁵³

- 1.44 As set out in the Supplemental Guidance,⁵⁴ the Act requires the CMA to balance its obligation to consult with its obligation to keep confidential the specified information received.⁵⁵ It does so by only disclosing information that is ‘necessary’ to discharge its obligation to consult.⁵⁶ In accordance with settled precedent, the disclosure of confidential information will be deemed necessary where it forms part of the ‘gist of the case’ the affected parties have to answer. In other words, the affected parties need to be provided with sufficient information in order to be able to make informed submissions in response to the CMA’s provisional findings.⁵⁷ What constitutes the ‘gist’ of a case is context-sensitive.⁵⁸
- 1.45 We are satisfied that we have acted in keeping with our legal duties and disclosed the gist of the case to the parties as part of the PDR. The PDR set out in detail our provisional findings and was the means by which we met our statutory duties to consult with relevant parties and give reasons, taking account of the provisions of Part 9 of the Act, explaining the Group’s reasoning in reaching its provisional findings at some length, and thereby enabling interested parties, including Motorola, to make reasoned representations in response. We also put to Motorola additional material relating to the possible transfer of the Airwave Network assets that further illuminated the gist of the case on that issue as set out in the PDR. It was given, and took, the opportunity to respond further.
- 1.46 Further, as regards the concern of preferring one interested party’s views of those of another, we have throughout the market investigation seen disagreements between Motorola and the Home Office relating to various material aspects of the evidence that we received from them.
- 1.47 In seeking to reconcile at times opposing representations of facts and interpretations of evidence, we have not favoured the views of one interested party over those of any other. We have in such circumstances sought to establish the correct factual position using other sources or through our own analysis (eg our own analysis of contractual terms, reviews of relevant internal documents and testimony from other parties). We have sought to clarify the differences and understand the significance of different interpretations and the possible motivations behind them and considered the extent to which the views provided to us were consistent with other evidence that we gathered during our investigation.

⁵³ [Groupe Eurotunnel SA v Competition Commission](#) [2013] CAT 30 at paragraph 221.

⁵⁴ Supplemental Guidance at paragraphs 3.31-3.35.

⁵⁵ Sections 237 and 238 of the Act. We also note that section 169 of the Act refers to the need to protect confidentiality.

⁵⁶ Section 244 of the Act.

⁵⁷ [R v Secretary of State for the Home Department, Ex parte Doody](#) [1993] UKHL 8, page 14.

⁵⁸ BMI at paragraph 39(7).

- 1.48 Throughout this report, where relevant to our investigation, we set out the diverging views of Motorola and the Home Office alongside our independent assessment.
- 1.49 The information we have referred to in this report is evidence we have relied on when reaching our final decisions. The fact that we have not referred to all of the evidence provided does not mean that we have not considered it. We have considered all submissions provided to us and taken steps to ensure that Motorola and the Home Office had the same level of opportunity to present the material facts and evidence to the Group. We have also ensured that both parties had the opportunity to respond to each other's submissions in response to the PDR (whilst ensuring the confidentiality of commercially sensitive information). We consider that at all times we have treated Motorola and the Home Office fairly and have maintained our impartiality and independence throughout the investigation.

Structure of this document

- 1.50 The structure of this document is as follows. We begin by setting our understanding of the relevant industry background (section 2). In section 3 we set out our assessment of the scope for competition in the supply of relevant services and our approach to market definition. Section 4 contains our assessment of whether there are features of the market which distort competition, focusing on whether there are such features which affect the supply of the Airwave Network and services. In section 5 we consider whether there are also features relating to ESN and Motorola's dual role, and the transition of users from one network to another, that have a distortive effect. Section 6 sets out our assessment of market outcomes – our profitability analysis. In section 7 we explain our decision that there is an AEC in the relevant market and section 8 sets out our remedies. Supporting material and analysis are in Appendices A-K.

The Final Report

- 1.51 This document, together with its appendices, constitutes our final report. It refers, where appropriate, to material published separately on the CMA website. The report, however, is self-contained and provides all material necessary for an understanding of our findings.

2. INDUSTRY BACKGROUND

- 2.1 This section first sets out the characteristics of the demand for, and supply of, communications network services for public safety in Great Britain and how it has developed since 2000, starting with a description of:
- (a) The distinct communication requirements of the emergency services;
 - (b) the business of the single supplier of such services, Airwave Solutions, including its revenues, assets and service obligations.
- 2.2 It then covers how the provision of such services has developed since the contract that led to the creation of the Airwave Network was awarded in 2000, including:
- (a) How the procurement was conducted;
 - (b) how other emergency services users became customers of Airwave Solutions;
 - (c) a description of the ensuing contractual relationships;
 - (d) the government's decision to procure a replacement for the Airwave Network;
 - (e) developments since 2015, including negotiations that have taken place; and
 - (f) the evolution of relevant technology.

The characteristics of demand and supply

Overview

- 2.3 This market investigation is concerned with the communications needs of emergency services staff operating in the field in Great Britain.
- 2.4 There are five distinct categories of customers, the first being by far the largest one in terms of numbers of individual users:
- (a) 44 police authorities/services;
 - (b) 50 fire and rescue authorities/services;
 - (c) 14 ambulance trusts;
 - (d) The National Police Air Services; and
 - (e) Organisations that need to communicate with the emergency services in case of an emergency, also referred to as 'Sharer' organisations. There are

around 165 such organisations, including Highways England, HM Revenue & Customs (HMRC), Border Force, local authorities, the Maritime and Coastguard Agency and the Royal National Lifeboat Institute.⁵⁹

- 2.5 In order to communicate with each other and with staff at base (ie in control rooms), emergency services staff require a telecommunications solution that provides high coverage, high security and high resilience. Broadly speaking, the unique needs of emergency services users can be described as follows:
- (a) Essential communication, on which lives depend, calling for a service that is reliable 24/7, 365 days a year.
 - (b) The need for emergency services staff to be able to communicate across regional boundaries and organisations (eg across different local police forces; ambulance trusts)⁶⁰ in order to respond rapidly, effectively and efficiently to emergency situations.
 - (c) Extensive coverage to include remote and hard to reach locations, such as remote rural areas in Scotland, the London Underground and aircraft in flight.
 - (d) Unique ‘mission critical’ communications needs, including high speed call set up, emergency button, encryption,⁶¹ group calls and ambient listening.
- 2.6 There are however some distinctions between the needs, and contracted requirements, of the various customer groups, for example:
- (a) The requirements of users regarding coverage differ. While the police and ambulance services require the network to have a high coverage of major roads, the fire and rescue services also require high coverage of land as they often need to drive off-road.⁶²
 - (b) While the police have contracted just for network services, the ambulance and fire and rescue services have contracted for an end-to-end service which includes provision of terminals, radios and control rooms.⁶³
 - (c) Air to ground coverage is a critical operational need of the ambulance services and police but not the fire and rescue services.⁶⁴

⁵⁹ As detailed in a list of Sharer organisations provided by Motorola. [3<]

⁶⁰ This is less the case for fire services, which in principle could satisfy their needs through a local service. See NAO (2002), [Public Private Partnerships: Airwave](#) (HC 730), paragraph 1.30.

⁶¹ Committee of Public Accounts (2002), [Public Private Partnerships: Airwave](#) (HC783), paragraph 26. This is not a requirement of the fire services.

⁶² As referenced by Motorola during the CMA’s site visit on 30 November 2021.

⁶³ As referenced by Motorola during the CMA’s site visit on 30 November 2021.

⁶⁴ As referenced by Motorola during the CMA’s site visit on 30 November 2021.

- 2.7 Given the requirements set out above, which are very distinct from those of other telecoms customers, the decision was made in the early 1990s that the best way to meet customer demand was through a single, national network (which would later be named the Airwave Network).⁶⁵ This would be built under a private finance initiative (PFI) procurement process as a way of engendering innovation by allowing the private sector to develop solutions for the new service. It was also decided to adopt a new technology that had been developed specifically for public safety needs but was still in the early stages of development: LMR technology using digital terrestrial trunked radio (TETRA)⁶⁶ standards.
- 2.8 Following a multi-stage procurement process, BT Telecommunications plc (BT), through its Wireless Division, was awarded the contract (the PFI Agreement), which was expected to be in place for 19 years.
- 2.9 It was anticipated that the cost of the project to the Home Office and police forces over its 19-year term would be £1.47 billion,⁶⁷ and that the cost of building the network would be £500 million. The annual charge to be paid by the Home Office and the police forces who would initially use the network was established through negotiations. This resulted in a price that would make a return of around [3<] [15% -20%] over the 19-year period of the PFI Agreement,⁶⁸ to reflect the project risk being taken by BT.⁶⁹
- 2.10 Once built, the network would be used to provide services to customers under separate long-term service contracts (discussed further later in this section, and in Appendix C). At the time of the PFI procurement, the fire services and ambulance services were still considering their options. In negotiating a deal, BT assumed that they (and potentially other public safety organisations) would join the network and estimated that additional revenues of between £1.8 million and £5.5 million a year might result (the benefit of which was not to be shared with the Home Office, as BT considered that it was taking all the risk on this aspect of the deal).⁷⁰
- 2.11 BT demerged its Wireless Division, including the activities relating to the PFI Agreement, into O2 plc in 2001. Also in 2001, the activities to deliver the PFI Agreement were incorporated into a subsidiary of O2, called Airwave mmO2

⁶⁵ Local and regional options were discounted for various economic and technical reasons. See NAO (2002), [Public Private Partnerships: Airwave](#) (HC 730), paragraph 1.6.

⁶⁶ LMR systems typically consist of handheld portable radios, mobile radios, base stations, a network, and repeaters. The open standard for digital trunked radio technology was developed by public safety and two-way radio industry experts together with the European Telecommunications Standards Institute (ETSI) to provide secure, reliable and instant voice and data communications in mission critical, operations critical and business critical environments (Source: Motorola Solutions webpage, '[What is TETRA](#)' ?)

⁶⁷ NAO (2002), [Public Private Partnerships: Airwave](#) (HC 730), paragraph 3.

⁶⁸ We note that 17% was the figure stated in the evidence before the Public Accounts Committee; the NAO reported that this was pre-finance and tax costs. The model we have seen contains differing rates of return: real, post-tax [3<] [10%-15%], nominal pre-tax [3<] [15%-20%], nominal post-tax [3<] [15%-20%].

⁶⁹ Committee of Public Accounts (2002), [Public Private Partnerships: Airwave](#) (HC783), paragraphs 123-125.

⁷⁰ NAO (2002), [Public Private Partnerships: Airwave](#) (HC 730), paragraph 11.

Limited.⁷¹ In 2006 O2 was sold to Telefonica. In 2007 Telefonica sold Airwave Solutions (as the company delivering the PFI Agreement had been renamed) to Guardian Digital Communications Limited (GDCL), a company controlled by Macquarie Communications Infrastructure Group, a Macquarie fund listed on the Australian Stock Exchange, and Macquarie European Infrastructure Fund II, a Macquarie unlisted investment fund (collectively referred to in this report as 'Macquarie').⁷²

- 2.12 The company that owns and operates the Airwave Network has had a number of name changes after 2001.⁷³ It is now named Airwave Solutions and is ultimately owned by Motorola Solutions, Inc., which acquired it from Macquarie in 2016.
- 2.13 Airwave Solutions provides communications network services to the individual local police services via service contracts with each local police service, while its general obligations are set within the PFI Agreement. Services to the Department of Health and Social Care (DHSC) and the Scottish Ambulance Service Board are provided under two separate agreements. Services to fire and rescue services are provided under one contract that is referred to as Firelink (and in this report we refer collectively to the contracts under which services are provided to the emergency services in Great Britain as the 'Blue Light Contracts'). Each Sharer organisation has its own contract. These contracts are discussed in more detail later in this section and in Appendix C.
- 2.14 Airwave Solutions operates under spectrum licences⁷⁴ issued by the Office of Communications (Ofcom) that restrict it to offering services on the Airwave Network to the emergency services in Great Britain (ie police, fire and ambulance services, referred to as blue light customers).
- 2.15 Airwave Solutions can also offer network services to designated 'Sharer' organisations, ie other organisations that are involved in public safety related activities and have a need to communicate with the blue light customers in emergency situations, but only under certain conditions.
- 2.16 Sharer organisations can only have access to the network if they have been approved by Ofcom and obtained security clearance from the Home Office for a sub-licence. Ofcom may also seek advice and guidance in relation to granting approval to potential Sharer organisations from the Emergency Services Sharer

⁷¹ [Motorola's response to the CMA's market investigation reference](#), paragraph 81.

⁷² Office of Fair Trading (2007), [Completed acquisition by Macquarie European Infrastructure Fund II and Macquarie Communications Infrastructure Group \(via Guardian Digital Communications Limited\) of Airwave Safety Communications Limited](#).

⁷³ [Motorola's response to the CMA's market investigation reference](#), paragraph 81.

⁷⁴ The use of radiocommunications equipment in the UK requires a licence from Ofcom issued under the Wireless Telegraphy Act 2006 (unless the use of such equipment is exempt from the requirement to hold a licence). Airwave Solutions holds various licences which authorise Airwave Solutions to provide electronic communications services over its network using radio frequencies that have been allocated for emergency services applications and assigned to Airwave Solutions by Ofcom.

Advisory Group which is comprised of representatives from the police, fire and ambulance services. The list of sharer organisations is controlled and managed by Ofcom.⁷⁵

2.17 Ofcom sets the following criteria for inclusion on the list.

The Sharer organisation must:

1. respond to emergencies;
2. be involved in emergency situations reasonably frequently;
3. be civilian, or required to respond to civilian emergencies; and
4. require interaction with those who respond to emergencies (the purpose of being on the Airwave service is interaction by way of instant direct communication with the emergency services on the ground).⁷⁶

Airwave Solutions' revenues

Main sources of revenue

2.18 In total Airwave Solutions generated £[X] million in revenue in 2021, which came from a number of sources:⁷⁷

- (a) The majority (£[X] million) came from services provided to the police. These charges are made up of two components. First, £[X] million was paid by the Home Office to provide police services with access to the Airwave Network (referred to as 'core services'). Second, further charges are payable by individual police services if they choose to purchase additional services from Airwave Solutions (referred to as 'menu services'). These totalled £[X] million in 2021.
- (b) Total revenue from ambulance services across Great Britain totalled £[X] million in 2021. £[X] million of this was for access to the Airwave Network (referred to as 'Bundle 1') as core services. Under their contracts, ambulance services receive a managed service, which provides them with control rooms, air-to-ground, vehicle installation, radio terminals and a service desk (referred to as 'Bundle 2'). These services accounted for £[X] million.⁷⁸

⁷⁵ The current list is available on Ofcom's website: [List of Sharer Organisations \(updated January 2020\)](#).

⁷⁶ Ofcom's website provides a guide to the [Airwave Sharers List Process](#).

⁷⁷ With the remainder coming from other sources including catalogue sales, interworking, Pronto and service credits.

⁷⁸ We understand that Motorola is currently in discussions with DHSC with regard to the ambulance users continuing to require access to the Airwave Network after 2023. This would effectively reduce the existing Bundle 2 service charges, the majority of which the Department of Health wishes to cease. An estimate of

(c) Total revenue from fire and rescue services was £[<] million.

(d) The revenue from contracts with Sharer organisations was £[<] million.⁷⁹

Revenue from product sales and special events

- 2.19 In addition to recurring revenues earned under the core and menu services, Airwave Solutions also earned £[<] million in 2021 from other purchases including for radio terminals, batteries and chargers as well as the purchase of special events, for additional network capacity and coverage (including survey, design, site builds and upgrades), and event support (including labour and testing). £[<] million arose from purchases made by the police, ambulance and fire and rescue services and £[<] million arose from purchases made by Sharer organisations.
- 2.20 Examples of special events include sporting events, royal events, festivals, ceremonies/memorials and other events open to the public (eg the Notting Hill Carnival, the Epsom Derby, Glastonbury, National Armed Forces Day, New Year's Eve in London, Farnborough International Airshow and Silverstone). All the revenue earned from these events is earned under the existing Airwave Network contracts. Total revenues for special events over the four-year period 2018-2021 amounted to £[<] million, of which £[<] million arose from services provided for the G7 in Cornwall in June 2021 and £[<] million arose from services provided for the COP26 in October/November 2021. With the exception of one small ambulance event in October 2018, all services for the non-repeating special events in 2018-2021 were provided to the police.⁸⁰
- 2.21 The most recent example of a special event involving the Airwave Network is the funeral of Her Majesty, Queen Elizabeth II. Motorola has drawn to our attention the role Airwave Solutions played in that event and the gratitude indicated to it by the Home Office.

Airwave Solutions' key assets⁸¹

- 2.22 The assets in Airwave Solutions' business comprise two key types: infrastructure (physical) assets, and licences to use spectrum to deliver the service. Airwave Solutions also has business assets in the form of agreements to lease or access base station sites, switch sites and buildings.

the continuing access fees relating to terminals provided under Bundle 2 is approximately £[<] million per annum from 2024 onwards.

⁷⁹ Motorola's response to RFI on revenue and other financial information dated 26 May 2022. [<]

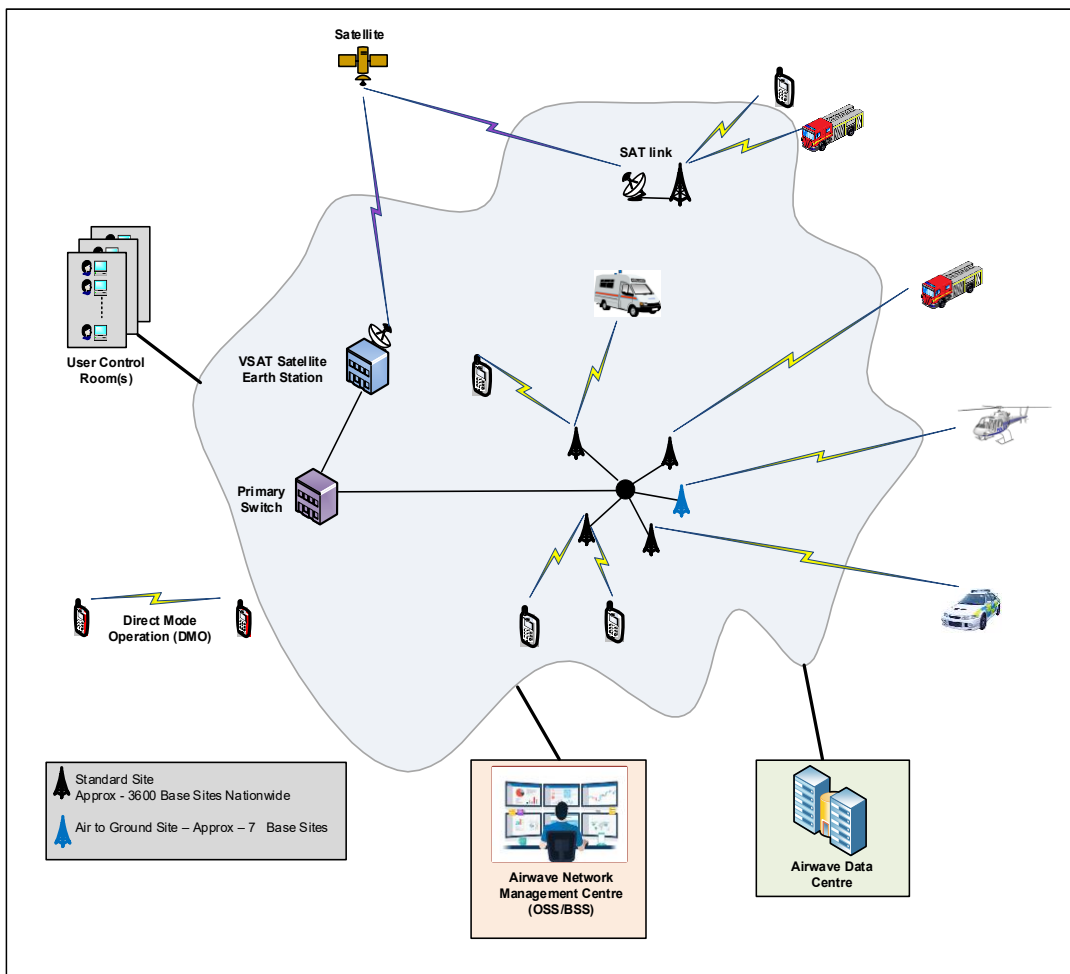
⁸⁰ Motorola's Response to Q12 of the financial RFI dated 16 February 2022. [<]

⁸¹ The main source of this information is a 2015 technical due diligence report commissioned by Motorola before its acquisition of Airwave Solutions ('technical due diligence report'). [<]

Physical infrastructure

2.23 The Airwave Network is a closed LMR network with a fully dedicated infrastructure, the main elements of which are depicted in Figure 2.1: below.

Figure 2.1: **Overview of the Airwave Network**



Source: IAP

2.24 The key physical assets making up the Airwave Network include:

- The transmission network;
- nine regional switching centres;
- over 3,800 radio transmitters located across the country that provide the TETRA radio voice and data coverage;
- two live network management centres and a back-up network management centre;

- (e) integrated communications control systems (ICCS), ie software that enables control room personnel to receive urgent phone calls from people in emergency situations (eg 999 calls) and to communicate with staff; and
- (f) communications control interfaces, ie the interfaces that allow the integration of ICCS, private telephony networks and voice recording systems.⁸²

- 2.25 The Airwave Network has been described (in 2015) as ‘the only one of its kind in Great Britain with over 3,800 base stations, including 1,200 base stations in difficult to access and remote areas and a fully duplicated network management centre (NMC) with an additional fall-back dark site in place’.⁸³ It delivers a service to its users 24 hours a day, 365 days a year, with an availability of 99.95% and a level of coverage equating to 99% of Great Britain’s landmass.
- 2.26 The network has been designed to be unique and resilient by providing an assured level of coverage through back-up generators and resilient design. It includes 1,248 high resilience base stations across the country and eight live switches covering individual geographical locations. The switching infrastructure is required to have full equipment redundancy by replicating each live cluster with a hot standby cluster.
- 2.27 Motorola, as the TETRA equipment developer member of the consortium led by BT,⁸⁴ provided and continues to provide TETRA equipment, and software that enables that equipment to operate as a network, to Airwave Solutions (eg proprietary interfaces to control rooms, switches, and base station equipment⁸⁵). The rest of Motorola’s supply of equipment to Airwave Solutions resulted in transfer charges of £[<] million, £[<] million and £[<] million in 2018, 2019 and 2020 respectively.⁸⁶ In 2021, around [<]% of Airwave Solutions’ capital expenditure on the Airwave Network (or £[<] million) was sourced from the rest of Motorola.⁸⁷ Transfer charges between the rest of Motorola and Airwave Solutions are discussed further in Appendix H.
- 2.28 Motorola told us that the Airwave Network was built and set up to last for the duration of the original period of the PFI Agreement and that a significant amount of investment will be needed over the next few years to ‘refresh’ the network, with some of the equipment now reaching obsolescence. Specific issues that will need to be addressed include that:

⁸² Draft note from Motorola to service users, 14 August 2018. [<].

⁸³ Technical due diligence report. [<]

⁸⁴ NAO (2002), [Public Private Partnerships: Airwave](#) (HC 730), Figure 9.

⁸⁵ Home Office presentation slides, 1 December 2021 and further information provided by the Home Office on 14 July 2022. [<]

⁸⁶ Motorola’s response to Q1 of Transfer Charges RFI dated 12 April 2022. [<]

⁸⁷ Source: Motorola’s response to Q1 of Transfer Charges RFI dated 12 April 2022. [<]

- (a) Some spares are no longer available and some components cannot be repaired;
- (b) the antivirus technology currently in use will be retired in 2022, and Motorola considers that support for Windows 7 used in the system is also at risk by this time;
- (c) access to spectrum in the 1.4 GHz band will be withdrawn from the end of 2024;
- (d) BT has announced it will cease to offer leased line services (also known as 'megastreams') in November 2025; and ⁸⁸
- (e) [redacted].⁸⁹

Spectrum

2.29 Airwave Solutions uses three separate spectrum blocks to deliver its services (referred to as blocks 1, 2 and 3):

- (a) Block 1 is described as the EU harmonised spectrum for Public Protection and Disaster Relief (PPDR)⁹⁰ and was originally licensed by Ofcom up to 31 December 2020, ie the end date was broadly aligned with the expected end of the last of the police service contracts and therefore the PFI Agreement. The use of the spectrum is restricted to Sharer organisations and for public safety purposes only.
- (b) Block 2 was granted to Airwave Solutions by way of a trade of spectrum from the Department of Health (DoH) on 14 September 2010 and expires on expiry of all of the contracts that Airwave Solutions has with the police, ambulance and fire and rescue services. The spectrum is used for all three emergency services and public safety only and is managed by the DHSC for PPDR.
- (c) Block 3 is leased from Arqiva and Airwave Solutions' right to use this spectrum continues indefinitely unless revoked by Ofcom or terminated by Airwave Solutions.⁹¹

⁸⁸ Presentation from Motorola during the CMA's site visit on 30 November 2021. [redacted]

⁸⁹ Email with attachment from Motorola to the CMA, 6 June 2022. [redacted]. [redacted]

⁹⁰ Emergency services throughout Europe use a part of 380-400MHz spectrum for voice communications. That band is a dedicated and harmonised spectrum band set aside for the exclusive use of the emergency services. (source: the Tetra and Critical Communications Association (TCCA) (2013), '[Harmonised spectrum for Critical Communications: An Executive Summary](#)').

⁹¹ Internal Motorola document, and the financial due diligence report. [redacted]

- 2.30 In addition, Airwave Solutions holds spectrum licences (in the 1.4 GHz band) for a number of point-to-point links (also referred to as fixed links or microwave links)⁹² and has gained access to individual channels on a case-by-case basis from [redacted] when covering special events.
- 2.31 In October 2018, following the signing of the Airwave Extension Term Sheet with the Home Office on 21 September 2018, Airwave Solutions applied for the extension of its three key licences to 31 December 2024 (allowing for 24 months of decommissioning and wind-down activity following the end of the extension). It also noted that Ofcom was starting the process to reallocate use of the 1.4 GHz band, but that existing links could remain operating until further notice and asked Ofcom to confirm that Airwave's licensed use would continue until 31 December 2024 to align with the requested variations to its main licences.⁹³ As part of its approval process, Ofcom sought confirmation from the Home Office that it supported the application.⁹⁴

Service level agreements

- 2.32 Given the criticality of the Airwave Network services, the PFI Agreement specifies 'service availability' requirements for all police services, defined as the percentage of 'successful communications' in the following circumstances:
- (a) within a force area, at least 99.80%;
 - (b) for calls from a user outside the 'home force area' to the home force area, at least 99.96%;
 - (c) in 'fall-back mode', in which users are communicating via a base station with other members of the same Talk Group, at least 99.98%.⁹⁵
- 2.33 In addition, the service contracts with the police, ambulance services and fire and rescue services include detailed provision for levels of service to be delivered, and for 'service credits' (discounts) to be applied in the case of these being missed.⁹⁶
- 2.34 The service contracts set out performance targets for different uses (eg radio voice services, communications control interface services, disaster recovery services). The contracts also include a 'service credit' regime, which sets out specific targets, with 'severity' ratings for failure to meet each target. Service credits are calculated according to this weighting, and other relevant factors.

⁹² Ofcom, [Fixed terrestrial links](#) and Ofcom (2017), [Fixed Wireless Spectrum Strategy: Consultation on proposed next steps to enable future uses of fixed wireless links](#).

⁹³ Letter from Motorola to Ofcom, 11 October 2018. [redacted]

⁹⁴ Motorola internal email, 17 December 2018. [redacted]

⁹⁵ The PFI Agreement. [redacted], [redacted]

⁹⁶ See, for example, [redacted] of Avon and Somerset Police's contract. [redacted]

- 2.35 In general, the Airwave Network is considered to be a highly resilient network, and when the NAO reported in 2016 it noted that availability had averaged 99.9% between 2010 and the date of its review.⁹⁷
- 2.36 Consistent with the NAO's view, over the ten years to the end of 2020, Airwave has paid 0.07% of revenues back to the three main emergency service users in service credits.⁹⁸
- 2.37 The quality of the services Airwave Solutions provides using the Airwave Network is therefore not generally an issue.⁹⁹ More recently though, the Ambulance Radio Programme has expressed some concerns:

With specific regard to Bundle 1 Services, over the full term of the contract the service has been delivered effectively and has provided a secure and broadly consistent level of service. However, in more recent years, compounded in part by delays in the introduction of ESN, this part of the solution has shown increasing signs of fragility. The asset base is arguably beyond 'end-of-life' status.

In terms of Bundle 2 Services, it is a broadly similar picture. Airwave Solutions (and its key subcontractor) has shown an increasing reluctance to maintain the existing infrastructure and has actively sought to dilute the existing liability and service credit regime when negotiating variations or extensions. In some areas, equipment and solutions (and the accompanying skills to maintain these solutions) has become scarce.¹⁰⁰

Development of the relevant services

Building of the customer base

The police contracts

- 2.38 Before the procurement of the Airwave Network, local emergency services contracted for their own radio communications systems. Reviews in England and Wales, and in Scotland, concluded that the communications network services for both police and fire and rescue services did not meet operational requirements. Key failings identified included that the systems were insecure (external parties

⁹⁷ NAO (2016), [Upgrading emergency service communications: the Emergency Services Network](#) (HC 627), page 7.

⁹⁸ Motorola's responses to Q4 of the RFI dated 30 July 2021, and Q9 of the RFI dated 13 December 2021. [3<]. [3<]. [3<]] [3<]

⁹⁹ And in our assessment of remedies we take into account the quality and safety of the service (see section 8 of this final report).

¹⁰⁰ ARP response to Q12 of the RFI dated 17 December 2021. [3<]

could 'listen in'), and often became congested so that officers could not make calls.¹⁰¹

- 2.39 In 1993, the Home Office concluded that a new system was required, and that it should be procured on a national basis.¹⁰² At this time, it was planned that the new system would also support the fire and rescue services but, in 1996, the fire and rescue services withdrew from the programme on the basis that the requirements being specified were more complex than they needed.¹⁰³ The ambulance services did not engage in any aspect of the procurement process, on the basis that at that time they had no need for a new radio system.¹⁰⁴
- 2.40 The Home Office issued a Project for Procurement for the PFI Agreement in the Official Journal of the European Communities (OJEC) in January 1996.¹⁰⁵
- 2.41 Although three consortia formed to bid for the PFI Agreement following publication of the OJEC Notice, by April 1997 only one bidder remained, led by BT.¹⁰⁶
- 2.42 After considering options, the Home Office (in consultation with HM Treasury, the PFI Panel and the Association of Chief Police Officers) decided to proceed to negotiate the price to be paid with the single bidder.¹⁰⁷
- 2.43 The PFI Agreement was executed on 29 February 2000¹⁰⁸ and the roll-out to police services started in September 2001, with the last police services to join those using the network being the Northern Constabulary, which executed a services contract in June 2001 and achieved 'Ready for Service' status in May 2005, and the British Transport Police, which contracted in March 2006 (in this latter case, the contract was 'deemed to have commenced' in August 2002).¹⁰⁹
- 2.44 The requirements of the police users changed significantly over the course of the PFI Agreement, with changes being implemented through a series of change control notices, as provided for in the original contract. The net effect of the change control notices was estimated by the Home Office to amount to £[X] million and account for [X]% of the projected life cost of the Airwave Network to December 2019 for the Home Office and the police forces (affecting both the 'core'

¹⁰¹ NAO (2002), [Public Private Partnerships: Airwave \(HC730\)](#), 2002, Figure 1, based on information provided by the Home Office. See Appendix B for more detail on the Airwave and ESN procurements.

¹⁰² NAO (2002), [Public Private Partnerships: Airwave \(HC730\)](#), 2002, paragraph 1.

¹⁰³ NAO (2002), [Public Private Partnerships: Airwave HC730](#), 2002, paragraph 1.

¹⁰⁴ Committee of Public Accounts (2002), [Public Private Partnerships: Airwave \(HC 783\)](#), Minutes of Evidence, Questions 3 and 4.

¹⁰⁵ OJEC Notice, 23 January 1996.

¹⁰⁶ NAO (2002), [Public Private Partnerships: Airwave \(HC730\)](#), Appendix 1.

¹⁰⁷ NAO (2002), [Public Private Partnerships: Airwave \(HC730\)](#), paragraph 2.15.

¹⁰⁸ The PFI Agreement. [X]

¹⁰⁹ Motorola's response to Q3 of the RFI dated 8 November 2021.

deliverables under the PFI Agreement and ‘menu’ deliverables provided for in that arrangement and purchased by individual services).¹¹⁰

The ambulance services contract procurements

- 2.45 The Cabinet Office ran a separate competitive tender process for a new communications system for ambulance services in England and Wales. However, competition was limited because of the significant cost of putting in place a second, competing national network and the lack of available radio spectrum.¹¹¹ The supplier of the Airwave Network won the contracts for both Lot 1 (the radio network service) and Lot 2 (radio terminals, control room equipment and mobile data services) and an agreement (referred to as the Ambulance Main Agreement) was signed in July 2005.
- 2.46 In July 2006, the Scottish Ambulance Service Board entered into a separate agreement (referred to as the Scottish Ambulance ARRP Agreement) under which the Scottish Ambulance Service Trust may buy services from the supplier of the Airwave Network. Scottish ambulance services started to use the Airwave Network in August 2010.

The fire and rescue service procurement

- 2.47 In relation to the procurement of services for the fire and rescue services, the Department for Communities and Local Government (DCLG) published a Contract Notice in the OJEC on 29 October 2002. Longlisted bidders were invited to submit a proposal on 31 July 2003, and the supplier of the Airwave Network was invited to submit a best and final offer on 18 March 2005.¹¹²
- 2.48 After submitting a revised final offer on 31 August 2005, the DCLG notified the supplier of the Airwave Network that it intended to award the contract to it on 24 February 2006.¹¹³

Key characteristics of the various Airwave Network customer contracts

- 2.49 Appendix C describes in detail the various contractual arrangements which underpin the commercial relationships that the various customer groups have entered into with Airwave Solutions. In this section, we first explain the scope of the various contracts, how they relate to each other to the extent that they do and what key commercial terms they cover. Within this analysis we draw out the main differences between these key commercial terms.

¹¹⁰ Internal Home Office email dated 3 November 2016. [3<]

¹¹¹ ARP response to Q3 of the RFI dated 17 December 2021. [3<]

¹¹² Firelink Main Agreement, Recitals. [3<]

¹¹³ Firelink Main Agreement, Recitals. [3<].

The PFI Agreement

- 2.50 The PFI Agreement sets out the agreed rights of, and obligations imposed on the parties, while the schedules go into detail on matters such as the services contracted for, the charging structure for those services, benchmarking and termination.
- 2.51 The PFI Agreement was initially envisaged as an overall framework contract for an estimated period of up to 19 years. That period was determined by: (i) the 15-year service contracts under which services would be provided to individual police forces (see below), which had different commencement dates and at the end of the last of which the PFI Agreement would itself end; (ii) the time needed to build the network and then to decommission it at the end of the service contracts; and (iii) the network having become fully operational from 2003. The applicable procurement regulations¹¹⁴ had the effect of setting an expectation, by the OJEC notice, that the contract would not be extended.¹¹⁵ Unlike the current procurement regulations, the applicable procurement regulations did not specify whether it was necessary for any possibility of an extension to be included in the OJEC notice. However, the OJEC notice specifically provided that the service would be completed after the 15-year period after 2003 (and what emerged from the procurement process was the PFI Agreement which provided for a fixed-term arrangement that would end at a point to be determined in 2019 or 2020 without terms relating to, or contemplating, its extension).
- 2.52 No services are directly provided under the PFI Agreement. Rather, the agreement governs the terms that are set out in the customer service contracts ('Services Contracts' or, in this report, the 'Police Service Contracts'). The Police Service Contracts are the individual contracts between Airwave Solutions and relevant police forces, concerning access to the Airwave Network, and charges for such access. The PFI Agreement contains a 'Model Services Contract' setting out standard terms for the Services Contracts into which individual police forces, Airwave Solutions and the Home Office enter by way of a tri-partite agreement.
- 2.53 The PFI Agreement sets out the structure of charges as being comprised of a core service charge, which is payable for access to the Airwave Network, and menu service charges which are services users can elect to purchase from Airwave Solutions. The contract specifies the initial level of core service and menu service charges and contains provisions for these to be adjusted annually in line with inflation according to set formulae. Such charges are subject to benchmarking.

¹¹⁴ OJEC (1002), [COUNCIL DIRECTIVE 92/50/EEC.pdf \(legislation.gov.uk\)](#); and [The Public Services Contracts Regulations 1993 \(legislation.gov.uk\)](#)

¹¹⁵ OJEC Notice, 23 January 1996.

The Police Service Contracts

- 2.54 There are Police Service Contracts in place for each of the various police services in England, Wales and Scotland. These are based on the model terms in the PFI Agreement.
- 2.55 The start dates of the Police Service Contracts vary. The earliest contract in place is understood to be from 29 June 2000, four months after the PFI Agreement became effective.¹¹⁶ The duration of the Police Services Contracts was 15 years from the Ready For Service date they contain.¹¹⁷ The service contract that originally drove the end date of the PFI Agreement¹¹⁸ was the Northern Constabulary contract, which was due to end on 9 May 2020.
- 2.56 The core services to be provided to the relevant police force and any menu services that may be selected by it are derived from the PFI Agreement. The terms of the Police Service Contracts are broadly similar to the terms of that agreement. As a result, if the PFI Agreement is terminated (in accordance with the terms set out therein), the Police Service Contracts will automatically be terminated without notice to the parties.
- 2.57 The charging structure of the core services and menu services is that set out in the PFI Agreement. There is an initial charge for the core services and menu services, which is then adjusted on an annual basis, in line with inflation and according to set formulae.

The ambulance services contracts

- 2.58 The Ambulance Main Agreement (Ambulance Contract) was entered into by the DoH and Airwave Solutions on 19 July 2005.¹¹⁹ It covers ambulance services in England and Wales.¹²⁰ The Scottish Ambulance ARRP Agreement (SAS Contract) is a separate customer contract to the Ambulance Contract, covering ambulance services in Scotland.¹²¹ The SAS Contract was entered into by the Scottish Ambulance Service Board and Airwave Solutions on 18 July 2006, on terms near identical to those of the Ambulance Contract. Where we refer to the 'Authority' in

¹¹⁶ However, we understand that contracts signed before March 2001 were considered 'incomplete', so were amended and re-executed after that date. The first 'complete' contracts were signed by West Mercia and Leicestershire police services, on 26 March 2001. Source: information supplied by the Home Office on 14 July 2022. [3<]

¹¹⁷ The earliest 'Ready for Service' date was September 2001, for Lancashire police service.

¹¹⁸ Before the negotiations that took place in early 2016. See Appendices D and E.

¹¹⁹ 'AARP Project Agreement', the project agreement between the Secretary of State for Health and Airwave 02 Limited, 19 July 2005. [3<]

¹²⁰ Albeit that the 'Territory' of the Contract is England whereas Wales is outside the Territory. However, the Ambulance Contract sets out how services may be provided – on request by the Authority – to the Welsh Ambulance Services NHS Trust (WAST) and WAST is included in the definition of Authority Service Recipients.

¹²¹ 'ARRP Project Agreement', the project agreement between the Scottish Ambulance Service Board and Airwave 02 Limited, 18 July 2006. [3<]

the context of these contracts we mean the DoH and/or the Scottish Ambulance Service Board as the case may be.

- 2.59 The duration of the Ambulance Contract is stated as a period of ten years, with scope for the Authority, at its sole discretion, to extend the contract in any service area for up to five years, with a one-year extension being the minimum extended term. Following an amendment via a Change Control Notice (CCN), 12 months' notice was required if the option to extend was to be exercised.
- 2.60 The Ambulance Contract stipulates that the Authority pays charges for the network services on a monthly basis. Further details regarding the charges are provided in schedules to the contract. The charges under the Ambulance Contract are subject to benchmarking.

The fire and rescue services contract

- 2.61 The Firelink Project Agreement is a contract with the Home Office under which Airwave Solutions agrees to provide, and the Home Office agrees to pay for, Airwave Network services to each 'Qualifying Fire Authority.' Unlike with police forces, there are no separate services contracts with each Qualifying Fire Authority.¹²²
- 2.62 The Firelink Project Agreement commenced on 29 March 2006, to continue for a period of ten years and nine months. The Home Office has the capability, at its sole discretion, to extend the contract for up to 36 months (a major extension), subject to such extension being a minimum of 12 months, with at least 24 months' notice. In addition, under the Firelink Project Agreement, the Home Office had the capability at its sole discretion to extend the contract with minor extensions for one or more periods which do not exceed, in the aggregate, 12 months, with at least one months' notice. The Home Office's extension capabilities were amended and extended in 2016 (see Appendix C).
- 2.63 Under the Firelink Project Agreement there are two types of charges payable to Airwave Solutions – capital charges and service fees, which are calculated in accordance with a specified formula. Capital charges include one-off payments relating to the achievement by Airwave Solutions of certain milestones and subsequent service fees are payable after the milestone is achieved, as well as until the Firelink Project Agreement expires or is terminated.

¹²² The Firelink Project Agreement contains a number of provisions that reflect this contractual structure. For example, that Qualifying Fire Authorities cannot enter into agreements or vary the contract on the Home Office's behalf. [3<]

The Sharer contracts

- 2.64 The majority of Sharer organisations access the Airwave Network on standard terms and conditions which are not typically negotiated.¹²³ Sharer organisations include (but are not limited to) government departments, local authorities, and energy/utility suppliers. Sharer organisations can choose between Airwave Direct, a managed service comprised of network access and provision of a managed terminal service, and Airwave Access where only network access is provided.¹²⁴
- 2.65 The standard-form Sharer contract has a minimum duration of 2.5 years, significantly shorter than the Blue Light Contracts.

Summary of distinctive features and relationships between the contracts

- 2.66 The PFI Agreement contains provisions for the benchmarking of the charges payable by Airwave Network users. These are provisions intended to enable the independent assessment of whether the charges represent value for money and to provide a process for the variation or termination of services which are determined not to be value for money. The PFI Agreement requires the benchmarking exercise take place within an initial six-year period and is then repeated at periods of no less than every five years, although negotiations have led to this right being waived at various points. The benchmarking provisions have been incorporated into the Police Service Contracts, the Ambulance Contract and the SAS Contract but there are no parallel provisions in the Firelink Project Agreement.
- 2.67 As noted above, the Blue Lights Contracts began with fixed term periods (of between ten and 15 years) with varying end dates, depending on when the contracts were entered into. Where the contracts were capable of extension, this was also for differing lengths of time, further fragmenting the end of the provision of the Airwave Network. However, the Police Service Contracts allow the Home Office to provide notice extending the original term of the contracts beyond the expiry date and original terms to bring the end date in line with other Blue Lights Contracts within the specified region.
- 2.68 The contracts also differ in the circumstances and manner in which they may be terminated. If the PFI Agreement is terminated, all the Police Service Contracts end without notice, but the Firelink Project Agreement, the Ambulance Contract and the SAS Contract are unaffected.
- 2.69 A unique feature of the Ambulance Contract is the provision for profit sharing in the case of delay. Where there is delayed implementation of a formal interim

¹²³ There are some arrangements for certain national public services, that are dealt with under the Crown Commercial Service framework.

¹²⁴ Motorola's response to Q3(a) of the RFI dated 27 May 2021. [3<]

milestone, for each day from the delay, the Authority will be entitled to a sum equal to a percentage of the cost plus profit margin.

The decision to move away from reliance on the Airwave Network

- 2.70 In 2011, the government formed the ESMCP with the objective of replacing the Airwave Network.¹²⁵ The programme conducted extensive industry and market engagement between 2011 and 2014, primarily concerned with technology selection. Many options were considered in terms of radio spectrum, and technology.
- 2.71 It was recognised at the time that the technology and standards to deploy dedicated public safety communications over a commercial network and ensure emergency service pre-emption and prioritisation over private users when necessary, were only just emerging, and might lead to a programme to replace the Airwave Network with risk. To help mitigate this the ESMCP worked with the international standards body 3GPP to develop 4G standards for public safety cellular solutions.¹²⁶
- 2.72 The strategic drivers for change, as described in the Home Office's 2013 Outline Business Case for pursuing ESN, were threefold:¹²⁷
- (a) The expected expiry of the Airwave Network contracts in the period from 2016 to 2020 as well as the OJEC notice, which led to a common understanding that the PFI Agreement would be effective until 2020 and could not be extended.
 - (b) The significantly higher cost (estimated to be at least 200%)¹²⁸ of the Airwave Network and services when compared with similar public safety systems elsewhere in Europe and price trends for publicly available mobile telephony.
 - (c) The increasing user requirements for mobile broadband data to support operational transformation that could not be fully met by the existing system.
- 2.73 One strategic objective of procuring the design and roll-out of ESN was that ESN would 'be based on a commercial mobile communications network that can be re-competed more regularly to exploit market forces and take advantage of

¹²⁵ NAO (2016), [Upgrading emergency service communications: the Emergency Services Network](#) (HC 627), page 5.

¹²⁶ NAO (2016), [Upgrading emergency service communications: the Emergency Services Network](#) (HC 627), paragraph 4.6.

¹²⁷ We examine other factors in the decision to procure ESN in section 4 of this report. See also Appendix B.

¹²⁸ A Gartner Study commissioned by the Home Office in July 2013 calculated the normalised total cost of ownership for Home Office users compared to a European peer average and concluded that 'Gartner concludes that the UK is paying above the market rate for TETRA services by 250%. The tolerance of the UK total cost of ownership calculation is estimated to be 15%; allowing for this tolerance the UK would still be 200% more expensive than European peers'. [3<]

technological evolution'. Four requirements were set for the new system, relating to functionality, security, availability and coverage. It was noted that TETRA technology could not meet all these requirements, without the use of additional broadband technology. While there were various options for combining TETRA technology with broadband, the chosen technology, 4G Long Term Evolution (LTE)¹²⁹ could meet all the stated requirements.

2.74 The chosen technological option was to make use of commercial 4G LTE services enhanced with extended coverage and public safety service platforms and one key aim was to avoid the risk of 'lock-in' with a provider (recognised as a key issue in the way in which LMR technology had been implemented) in order to:

- (a) Encourage competition in the commercial mobile services market segment and benefit from commercial rates (even with a premium for emergency services airtime).
- (b) Target best of breed providers in this specialist ESN functionality market segment.
- (c) Maintain the ability to compete this separately in the future and as a contingency should there be a delay to open standards.

2.75 The intent to facilitate future competition was further clarified as follows:

Currently the extended coverage required is provided only by the incumbent supplier, and moving to 4G LTE would require re-investment in infrastructure to replicate this coverage for ESN. We need to procure this infrastructure to create a 'neutral host' to avoid the risk of 'lock-in' and support future competition:

- It avoids the mobile service provider having to make this investment
- It can be made available to any future MNO provider, allowing a longer period for recovery of the investment.

2.76 Thus, it was hoped that the long-term competitive dynamics would be very different, once the ESN solution was fully implemented.¹³⁰

2.77 On 18 April 2014, the Home Office invited prospective suppliers to submit proposals to supply ESN.¹³¹

¹²⁹ A standard for wireless broadband communication for mobile devices and data terminals, based on the GSM/EDGE and UMTS/HSPA technologies. See [ETSI's webpage](#) for more information.

¹³⁰ This paragraph and the two preceding it draw on the Home Office's 'Outline Business Case for the Emergency Services Mobile Communications Programme (ESMCP)'. [3<]

¹³¹ [OJEU Contract notice published on 18 April 2014. The notice envisaged four lots to provide elements of the new service. The fourth, called 'extension services' in the notice, was cancelled in autumn 2014 and brought in-house as 'Extended Area Services'.](#)

2.78 Three main lots were issued to provide the relevant services:¹³²

- (a) Lot 1 required a delivery partner to oversee the build-out of ESN; programme manage and report on transition; provide cross-Lot integration; training support; vehicle installation reference design and assurance; and delivery support. The 'Delivery Partner' contract was awarded to Kellogg Brown and Root (KBR). We refer to this contract as 'Lot 1' in the remainder of this report.
- (b) Lot 2 required a service provider for: end-to-end systems integration; public safety functionality; account management; network and IT infrastructure; technical interfaces; user device approval and management; application approval and hosting; customer support; and service management. The 'User Services' contract was awarded to Motorola. We refer to this contract as 'Lot 2' in the remainder of this report.
- (c) Lot 3 required a mobile network operator to provide an enhanced radio access service with highly available national coverage and an interface to User Services and the Extended Area Services. The contract to provide 'Network/Mobile Services' was awarded to EE. We refer to this contract as 'Lot 3' in the remainder of this report.

2.79 While the initial procurement process concentrated on the contracts with Motorola and EE, there were a number of additional items that needed to be procured before the ESMCP could be implemented. These are known as 'related projects' and all of these (as listed below) have to be delivered and proven to interface with the application software (by Motorola) and the network (by EE):¹³³

- (a) Extended Area Service (EAS) coverage: major and minor roads that fall outside of those in the primary coverage area.
- (b) Air coverage: above 500 feet (already in the primary coverage area), up to 10,000 feet.
- (c) London Underground coverage.
- (d) User devices: specially-optimised, rugged handset or fixed vehicle devices, with other devices (including a non-rugged alternative) available for the start of mass transition.
- (e) Control rooms.

¹³² [Emergency Services Network \(ESN\) – Information Note](#); Home Office (undated). See also Home Office: [About the emergency services network](#).

¹³³ Emergency Services Mobile Communications Programme Independent Review by Simon Ricketts – Advisor to Permanent Under Secretary (HO), October 2017, page 5. [3<]

(f) Vehicle and aircraft installations.

(g) Customer support services to enable transition.¹³⁴

2.80 The multi-stage tender process ran from April 2014 to September 2015. Table 2.1: below summarises the main contract awards.

Table 2.1: Overview of the three contracts awarded in 2015

Lot Description	Chosen Supplier	Awarded	Period	Value	Max	Value	OJEU
			Yrs	Low	Extension	High	Range
1. Delivery Partner	KBR	26/08/15	5.5	£m	1.5	£m	£m
2. User Services	Motorola	08/12/15	6.5	235.2	1.5	293.9	60 - 90
3. Mobile Services	EE	08/12/15	6	658.4	1	735.8	120 - 245
							200 - 530

Source: Home Office [redacted]

2.81 The plan, reflected in the contractual provisions agreed by the winning bidders, was to design, build, test and assure the solution over a 21-month period (referred to as the mobilisation period). This period was increased from 17 months (the timetable that had been originally set, based on what industry participants believed to be sufficient time), following negotiations with EE and Motorola, with the Home Office being prepared to extend it to 24 months, and the suppliers considering that 21 months would be sufficient for them to complete, build and test the network.¹³⁵

2.82 The transition period would then start, during which users would progressively move, region by region from the Airwave Network to ESN. The agreed timetable was for the transition to start in September 2017 and be complete by the end of 2019, ie to take 27 months. The plan had originally been to allow for a four-year transition, but this was reduced to 2.5 years due to the cost of the Airwave Network services and because it had 'not been possible to agree a notice based arrangement to contract termination as was originally assumed': according to an internal Home Office document, as part of discussions with Airwave Solutions about a possible phased transition, Airwave Solutions had 'simply proposed an expensive, blanket, extension of all contracts to 2020'.¹³⁶

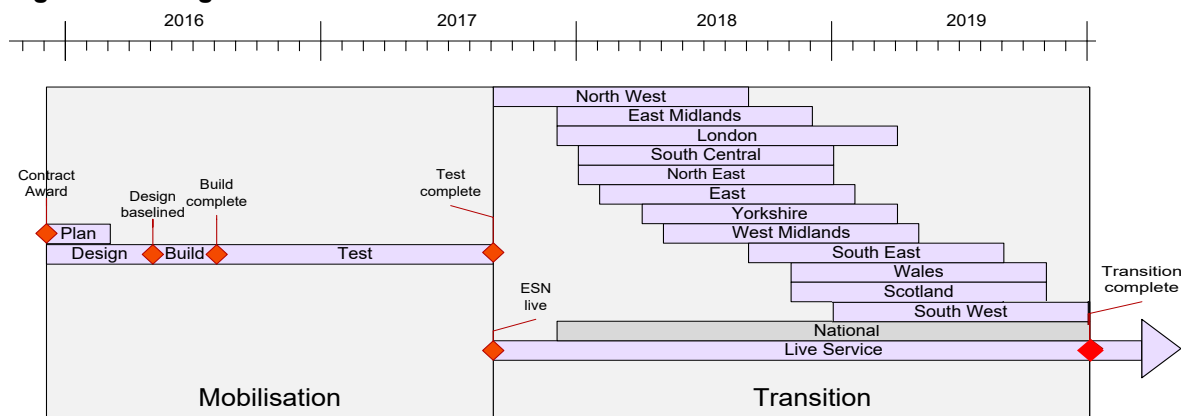
2.83 This plan is shown in Figure 2.2: below.

¹³⁴ It is also important to note that before a 'national shutdown' of Airwave can occur the other user organisations beyond the emergency services also have to implement the new solution.

¹³⁵ Draft letter from the Home Office Permanent Secretary to [redacted] of the NAO. [redacted]

¹³⁶ Home Office internal briefing, 29 July 2014. [redacted]

Figure 2.2: Original ESMCP timetable



Source: Home Office [36]

2.84 During the transition period, an ‘interworking’ technological solution would be required to enable users to make calls between the Airwave Network and ESN networks. This is discussed in section 5 of this report.

Key developments since 2015

Acquisition of Airwave Solutions by Motorola and subsequent negotiation

2.85 On 3 December 2015, Motorola agreed to purchase Airwave Solutions from Macquarie, subject to approval by the Home Office, and on 7 December 2015, the Home Office accepted an undertaking from Motorola, referred to as a Deed of Undertaking, not to complete its proposed purchase of Airwave Solutions without the Home Office’s approval.¹³⁷

2.86 On 8 December 2015 the Home Office agreed the Lot 2 contract with Motorola.¹³⁸

2.87 Following commercial negotiations, a number of agreements were entered into between Motorola and the Home Office on 17 February 2016. These agreements included Heads of Terms (HoTs),¹³⁹ dispute settlements (‘the Benchmarking Settlement’ and ‘the Ambulance Settlement’) covering various disputes between Airwave Solutions and the Home Office and between Airwave Solutions and the ambulance authorities, and a Deed of Recovery (DoR), the purpose of which was to address the ‘conflict of interest’ that the Home Office considered Motorola’s ownership of Airwave Solutions and its role as a key supplier to the ESMCP gave rise to.¹⁴⁰

¹³⁷ Deed of Undertaking by Motorola Solutions, Inc. in favour of the Secretary of State for the Home Department, 7 December 2015. [36]

¹³⁸ ESMCP Terms and Conditions, 7 December 2015. [36]

¹³⁹ Heads of Terms Regarding extensions, 17 February 2016. [36]

¹⁴⁰ Deed of Recovery between Motorola Solutions, Inc. and the Secretary of State for the Home Department, 17 February 2016. [36]

- 2.88 Under the HoTs, contract end dates were aligned across all the emergency services contracts with Airwave Solutions to a 'National Shutdown Date' (NSD) target of 31 December 2019 and the Home Office gained a unilateral right to extend the same contracts at the prevailing price.¹⁴¹ Individual contracts remained in place and the Home Office led on the negotiations while engaging with the relevant ambulance and fire and rescue service representative bodies. These amendments were implemented in August 2016 via an Umbrella Change Control Note (UCCN1).
- 2.89 Other key details of these agreements are provided in Appendix C and the negotiations that led to these agreements are further discussed in section 4 and Appendix E.

ESN delivery delays and re-plans

- 2.90 The timescales for the delivery of Lot 1, Lot 2 and Lot 3 were defined and expressed as the duration in days and months following the effective date (ED) of the contract:
- (a) ED + 28 days: integrated plan.
 - (b) ED + 5 months – agreed and documented technical design.
 - (c) ED + 21 months – first transition starts, ie September 2017.
- 2.91 The first two milestones were not met, and by the summer of 2016, the Home Office decided to develop a new plan in collaboration with EE and Motorola. This led to a Change Request (CR110), raised in September 2016, and a new set of milestones and a planned delay of three months to the beginning of the transition.¹⁴²
- 2.92 Delays however continued throughout 2017, and by December 2017, the Home Office decided to consider all possible options, including the potential abandonment of ESN.
- 2.93 In the meantime, Motorola had acquired Kodiak Networks,¹⁴³ a privately held provider of broadband push-to-talk (PTT) for commercial customers. Under Motorola ownership, the Kodiak team started the process of developing its PTT application to meet the needs of public safety customers, thus turning it into a mission critical push-to-talk (MCPTT) application. In May 2018, Motorola invited the Home Office to consider switching from the MCPTT application that it had sold

¹⁴¹ Home Office on behalf of the police; Department for Communities and Local Government (later transferred to the Home Office) on behalf of the fire services; the DoH for the ambulance services in England and Wales; the Scottish Ambulance Service Board for the Scottish ambulance services.

¹⁴² Home Office presentation to ESMCP stakeholders, 4 October 2016. [3<]

¹⁴³ Motorola press notice, 28 August 2017. [Motorola Solutions completes acquisition of Kodiak networks](#)

as part of its Lot 2 contract, Wave 7000, to the Kodiak MCPTT application. Although at that time, a limited number of the requirements set out in Lot 2 were met by the Kodiak MCPTT application,¹⁴⁴ it was considered to be a more appropriate application than the Wave 7000 application that was being developed. That was not least because it was specifically designed to operate over 4G cellular networks and was seen as easier to adapt to the needs of blue light customers.

- 2.94 Following negotiations held from May to August 2018, in which it was agreed to reset the ESMCP, Heads of Terms were signed on 21 September 2018. These Heads of Terms would be implemented through a Change Advisory Note (CAN500) which was signed on 14 May 2019.
- 2.95 CAN500 endorsed the change of the planned MCPTT application from Wave 7000 to Kodiak. CAN500 also endorsed the plan to deliver the functions of Kodiak incrementally, culminating with 'Kodiak 10' which would enable users to be migrated to ESN and the Airwave Network to be switched off,¹⁴⁵ rather than the original plan to deliver all Wave 7000 functions together. The Home Office considered that the benefits of incremental delivery were 'an early sight of test issues, the opportunity to build confidence with Users by familiarising with the new system and a better cash flow profile for Motorola rewarding development progress'. CAN500 included a revised date for 'mobilisation complete' of 30 November 2020, rather than the original contract date of 15 September 2017.¹⁴⁶
- 2.96 Following CAN500, the plan was refreshed twice in 2020: in February 2020 (in a re-plan called 'Taking heat out of the plan', based on Kodiak 11, with a 'mobilisation complete' date of 29 October 2021), and in November 2020 (the '11.x' plan, based on Kodiak 12, with a 'mobilisation complete' date of 31 March 2023).¹⁴⁷
- 2.97 By July 2021, the ESMCP had fallen behind further. The Home Office's estimated target date for starting transition was the second quarter of 2024, with completion targeted for the end of 2026, although this is regarded by the Home Office as 'simply the anticipated date' at which the Airwave Network could be shut down.¹⁴⁸ These target dates are set out in Table 2.2:.
- 2.98 Key changes to the target dates, over time, for implementing ESN and transitioning users from the Airwave Network to ESN, are set out in Table 2.2:.

¹⁴⁴ Motorola internal presentation, undated, slide 3. This shows that when the HoTs were signed, the Kodiak MCPTT application met 18% of the 510 Lot 2 functionality requirements. [3<]

¹⁴⁵ A series of implementation steps were planned to lead to this: 'Direct 1' based on Kodiak .4 , 'Direct 2' based on Kodiak 9.0, 'Direct 3', which was later de-scoped from the programme, was going to be based on Kodiak 9.1.

¹⁴⁶ Home Office teach-in slides, 1 December 2021. [3<]

¹⁴⁷ Home Office teach-in slides, 1 December 2021. [3<]

¹⁴⁸ Home Office teach-in slides, 1 December 2021; HO responses to Q35 of the RFI dated 11 February 2022. [3<]

Table 2.2: **Implementation schedule changes since December 2015**

Date of plan	December 2015	August 2016 (NAO report)	May 2019 (the reset)	November 2020 ('11.x Plan')	July 2021 Full Business Case
'Mobilisation complete', start of transition	September 2017	September 2017	November 2020	March 2023	April 2023
Airwave Shutdown Date	March 2020	December 2019	December 2022	December 2026	December 2026 [3<]
Transition period	30 months	27 months	27 months	27 months	27 months

Sources: NAO (2016), *Upgrading emergency service communications: the Emergency Services Network*, Figure 11; NAO (2019), *Progress delivering the Emergency Services Network*, figure 4; Home office Teach-in slide pack. [3<]

Negotiations relating to the Airwave Network

- 2.99 As the delivery of ESN has taken longer than had been expected in 2015/16, it has been necessary to extend the various emergency services contracts with Airwave Solutions beyond 31 December 2019. The terms of these extensions have been the subject of bilateral negotiations, led by the Home Office on behalf of key customer groups, which have taken place in 2018 (from April to September) and (unsuccessfully) in 2021. In 2021, negotiations having been unsuccessful, the contracts were extended by the Home Office's exercise of its contractual right to set and issue notice of the NSD Target Date.
- 2.100 In addition to these negotiations, the Home Office and Motorola carried out negotiations in early 2017 as part of a replanning of the ESMCP that was expected to lead to extensions of the period of operation of the Airwave Network spanning a few months. These negotiations resulted in a £[3<] million one-off discount to apply in 2020.
- 2.101 The 2018 negotiations resulted in an extension of the period of operation of the Airwave Network to 31 December 2022 and had the effect of varying certain of the matters set out in the 2016 HoTs. In commercial terms, this involved an additional [3<]% discount to core service charges and the continuation of the discount (credits) given in 2016 (amounting to £[3<] million). As part of the negotiations, Motorola modelled prices on two bases, neither of which was taken up by the Home Office:
- (a) In April 2018, Motorola modelled a [3<]-year extension that assumed that previous discounts (£[3<] million and the £[3<] million) would not apply and built in discounts increasing over time from [3<]% to [3<]%.¹⁴⁹
 - (b) In June 2018, following a request from the Home Office to consider an 18-month rolling extension, Motorola proposed another [3<]-year extension with breaks and a minimum period of [3<] years. This assumed that previous

¹⁴⁹ Motorola presentation to the Home Office, 17 April 2018. [3<]

agreed discounts would not apply and built in discounts ranging increasing from [X]% to [X]%, depending on the time that notice was given. It also transferred the cost of the decommissioning of the assets to the Home Office if the early break option was exercised.¹⁵⁰ The proportion of decommissioning costs to be transferred to the Home Office diminished the longer the contract ran.¹⁵¹

- 2.102 The 2021 negotiations related to the potential extension of the contracts beyond 2022 as it was not expected that customers would finish transitioning from the Airwave Network to ESN before the end of 2026. As at June 2021, Motorola's position was that charges should increase by £[X] million, due to the need to refresh the Airwave Network. Negotiations stalled following the launch of the CMA's MIR consultation on July 2021 and launch of the MIR on 25 October 2021, and in December 2021 the Home Office served a National Shutdown Notice, the practical effect of which was to extend the provision of the network unilaterally to 31 December 2026 at current prices.
- 2.103 We note in this connection that, in its response to the PDR, Motorola said that:
- The CMA still fails to understand how the PFI Agreement operates as a contractual matter
- The CMA wrongly treats the PFI Agreement as having a fixed term that is capable of extension at the Home Office's discretion....
- In fact, in 2021, by serving the National Shut Down Notice, the Home Office in substance converted the PFI Agreement back from an open-ended contract to one with a fixed end date that now terminates on 31 December 2026. The Home Office did nothing that had the effect of 'extending' the contract.¹⁵²
- 2.104 We understand Motorola's submission to describe the formal contractual mechanisms relating to the duration of the PFI Agreement that are provided for by the HoTs. The submission provides one description of the consequences of those mechanisms.
- 2.105 However, it appears clear to us that both parties contemplated that the setting or changing of a NSD Target Date pursuant to the HoTs¹⁵³ is the means by which their contractual relationship, and the operation of the Airwave Network, would be extended beyond whatever point they had previously contemplated would be the end date. The evidence, examples of which we refer to in paragraphs 2.101 and 2.102 above and 2.110 below, as well as in sections 3 and 4 of and Appendix E to,

¹⁵⁰ Motorola presentation to the Home Office, 6 June 2018. [X]

¹⁵¹ Home Office Response to the PDR, Appendix A, paragraph 1.12.

¹⁵² [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraphs 2.2–2.4.

¹⁵³ Whether by agreement or the service by the Home Office of a National Shut Down Notice.

this decision report, relating to the negotiations in 2018 and 2021 (and referring extensively to those as negotiations of contractual extensions) amply demonstrates that point. We note also, as described in Appendix C, that the Home Office has the right to serve a Deferred National Shut Down Notice extending the operation of the Airwave Network and the contractual arrangements under which it is provided. We characterise and assess the negotiations and price-setting discussions between the parties accordingly.

Evolution and future of relevant technology

- 2.106 Since at least 2015, there has been much debate about the speed at which LMR technology will be replaced by LTE for emergency services use, or whether the two will be used as complements for one another.¹⁵⁴ Investment analysts have tended to see LTE as only a ‘long-term’ risk to companies providing products and services based on LMR technology.¹⁵⁵
- 2.107 We understand from the IAP (as advised by the European Telecommunications Standards agency (ETSI)) that TETRA, the LMR technology used to provide the Airwave Network, is not being developed further, for example to support mission-critical data.¹⁵⁶ Having carried out extensive research into the plans of several European countries and other countries around the world, the IAP concluded that although TETRA is likely to be in use in some locations around the world beyond 2030, there is a move towards LTE to support mission-critical broadband communications in many comparator countries.
- 2.108 Motorola nonetheless told us that LMR networks are regarded by customers as current technology, in which they are willing to invest significant sums of money in order to maintain that technology in the future. It provided examples of LMR networks around the world that it is involved in designing and implementing and told us that it continues to invest approximately US\$[redacted] million per year in LMR R&D. It is also investing in ‘broadband MCPTT software features and in ‘dual mode’ devices that can operate on either LMR or LTE technology.¹⁵⁷ It considers both technologies to be of ‘profound current and future strategic significance’, while many governments are still evaluating the move towards broadband technology. While in the UK the Home Office has served a notice for the shut-

¹⁵⁴ For example, reported comment by [redacted], then [redacted] of Motorola Solutions Inc., on 9 September 2015 that ‘public safety LTE is additive to LMT’ in an article in Radio Resource international on 9 September 2015, and reported comment by [redacted], then [redacted] at Motorola Solutions, Inc., in Critical Communications Today, 7 August 201, ‘[Motorola Solutions news round-up](#)’. That ‘for the foreseeable future many, many, many years in public safety, it will be LMR and LTE rather than LTE as a replacement for LMR’.[redacted]

¹⁵⁵ Raymond Jaymes report, 23 February 2018; Wells Fargo Securities report, 28 February 2018; Jefferies report, 8 July 2021. [redacted]

¹⁵⁶ Independent Assurance Panel submission to the Competition and Markets Authority, 5 April 2022, page 10. [redacted]

¹⁵⁷ Motorola’s Fifth Supplementary Submission to the CMA’s Oral Hearing on 10 February 2022, 18 March 2022. [redacted]

down of the Airwave Network by the end of 2026, Motorola believes there is a good chance that the transition process may take longer than the Home Office expects. Motorola has invested significantly in developing products that facilitate the 'hybrid' operation of both LMR and broadband networks (including the development of dual mode devices, while such transition takes place, or even on a longer basis). It also considered that the Airwave Network should not be regarded as 'old' in technology terms, or in terms of Airwave's significance to Motorola more generally as part of its global LMR activities.¹⁵⁸

- 2.109 In a March 2021 presentation to Home Office advisers and senior civil servants describing the Airwave infrastructure, including the need to refresh some key equipment to ensure that it continues to provide a reliable service, Airwave Solutions described the TETRA market as still growing, highlighting that 50% of the installed base was in Europe, where a 2.4% growth rate was expected while a growth rate of 14.9% was expected in North America.¹⁵⁹ The presentation also highlighted customers' commitment to TETRA technology, showing a range of contracts that are expected to continue beyond 2025 and for some well into [REDACTED].¹⁶⁰
- 2.110 Turning to the UK, Motorola's views on the future of LMR technology appear to centre on the potential for the Airwave Network to be retained alongside ESN as a complementary infrastructure supporting voice communication, with ESN being focused on data:
- (a) In a meeting held in September 2020, Motorola suggested to the Home Office that a change of direction for ESN would be beneficial. This was described as an 'ESN/Airwave Convergence/Co-existence' strategy that 'would involve revisiting the service and transition strategy – with the concept of keeping both networks (ESN and Airwave) – and hence a revisit of the Business Case. The principle would be that the proven Airwave Service could continue to provide reliable "voice" services, and the new ESN Service would focus on "enhanced services" such as analytics, video etc. - and allow a period of stabilisation for the ESN Service. Commercially, MSI [Motorola Solutions, Inc.] could provide greater flexibility for a longer term, strategic arrangement with both technologies.' This was consistent with Motorola's overall goal of establishing a long-term strategic relationship covering Airwave, ESN and other services. In parallel, Motorola developed revenue and profit forecasts based on a scenario in which the Airwave infrastructure would continue to coexist alongside ESN until at least 2030, if not longer. This presentation assumed that Motorola would provide its ESN services 'for

¹⁵⁸ Motorola's Fifth Supplementary Submission to the CMA's Oral Hearing on 10 February 2022, 18 March 2022. [REDACTED].

¹⁵⁹ Forecast to 2023, based on a 2019 report produced by IHS Markit on TETRA terminals.

¹⁶⁰ Motorola internal presentation on Airwave, 11 March 2021. [REDACTED]

free' and would broadly maintain its current level of revenue across ESN and Airwave longer term under this hybrid infrastructure.¹⁶¹

- (b) Motorola's expectations, as set out in its 31 December 2020 valuation and impairment review, were as follows:

Airwave's core contracts were last renewed in December 201 , extending the current Airwave service to December 2022. Negotiations are ongoing with government around a further extension to the Airwave service, potentially to December 2024. Airwave management further believe that an extension to December 2025 will already be necessary, based on current ESN transition timelines (note that the original Motorola model that backed up the Airwave acquisition in 2016 also assumed cash flows to 2025). Management also envisage that post-2025, significant elements of the Airwave network would be required as a complementary service to ESN, providing voice and remote area coverage, up to 2029. Internal organisational changes have brought Airwave and ESN together under unified Motorola management control, paving the way for the provision of complementary services delivered by one merged UK business.¹⁶²

Recent developments

- 2.111 On 19 December 2022, the Home Office and Motorola entered into agreements to enable the termination of Motorola's involvement in the ESN Lot 2 contract. At the same time, the Home Office and Motorola signed the Interface Agreement, which provides for the provision of the interface in relation to the Airwave Network in order to support the interworking of the Airwave Network and ESN during the period of transition between them.¹⁶³

¹⁶¹ Email from Motorola to Deloitte, 16 September 2020; Motorola internal presentation, 25 August 2020; Motorola internal presentation, 16 October 2020, discussed with Motorola [redacted] on 12 November 2020. [redacted].

¹⁶² Motorola internal 'Local Statutory Entity Investment Valuation and Impairment Review, 31 December 2020. [redacted]

¹⁶³ [redacted]

3. SCOPE FOR COMPETITION AND MARKET DEFINITION

3.1 In this section, we set out our analysis of and conclusions on:

- (a) The scope for competition in the supply of the relevant services and whether there is a market for them which is open to our assessment under the statutory market investigation framework; and
- (b) the appropriate market definition.

3.2 As to the first of those, the conclusion we reach is that there is scope for relevant competition and a market which is capable of assessment. On the second, we define the market as that for the supply of communications network services for public safety and ancillary services in Great Britain.

Contracts, markets and the application of the statutory framework

3.3 Before we assess competition, our analysis (in paragraphs 3.5 - 3.63) focuses on whether there is scope for competition in the supply of LMR network services for public safety and a market that we can assess. At this stage of our analysis, we are just concerned with those questions. After concluding on them, we consider how the market should be defined (in paragraphs 3.64 - 3.94) and then in the subsequent sections of this report we assess competition in the market.

3.4 We begin by summarising the provisional view we set out in the PDR and the reasons for it. We then summarise the responses we received to the PDR before setting out our analysis in light of those responses and our conclusions.

Our provisional view in the PDR

3.5 Our provisional view set out in the PDR was that there is scope for competition in the supply of the relevant network services and a market that we can assess. We said that the present situation can be analysed by examining current market dynamics, how they have evolved and the extent to which they might result from features distorting competition within the market.¹⁶⁴

3.6 In reaching that provisional view, we took account of Motorola's submissions in the earlier stages of our investigation:

- (a) Motorola submitted that there is no market for us to analyse. There had, Motorola said, been competition for the market in 2000 when the original tender for the PFI Agreement occurred and that should be an integral part of

¹⁶⁴ CMA (2022), [Mobile radio network services provisional decision](#), paragraphs 3.91 – 3.92.

our assessment.¹⁶⁵ However, since then, Motorola said, all the parties' rights and obligations are set out in their contractual arrangements – the PFI Agreement as extended and amended. The Home Office is, Motorola said, a large, sophisticated and willing actor, who had exercised free and informed choice to agree those contractual arrangements (in the 2015/16 negotiations that resulted in the HoTs and, in particular, which gave the Home Office the right to extend the contract on the same terms as long as it required).¹⁶⁶ Motorola submitted that there is no further scope for competition between the parties.

- (b) Motorola submitted that, where scope for competition might have existed, it had not materialised because of choices the Home Office had made. For example, Motorola said, the Home Office could have run a competitive process for the supply of the relevant network services between 2020 and 2026, agreed a long-term extension of the PFI Agreement offered by Motorola in exchange for a discount in 2018, or procured ESN to operate as an alternative network alongside the Airwave Network.¹⁶⁷
- (c) Motorola submitted that there is no competitive interaction between the Airwave Network and ESN. ESN is, Motorola had submitted to us, a replacement for the Airwave Network, not a possible alternative to it. The terms on which, and the time at which, customers would migrate to and use ESN were set at the tender stage of the ESN programme.¹⁶⁸ Motorola said that Airwave Solutions could not compete to retain those customers on the Airwave Network¹⁶⁹ and the Home Office could not use ESN as an alternative to the Airwave Network that would improve its bargaining power in contract negotiations with Airwave Solutions / Motorola.¹⁷⁰

3.7 Taking account of these submissions, in the PDR we assessed:

¹⁶⁵ [Motorola's first supplementary response to the 10 February 2022 hearing with the CMA](#), 4 March 2022, paragraphs 2 and 3. [Motorola's Response to the CMA's working paper on Scope for Competition and Market Definition](#), 27 May 2022, paragraph 13. See also [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 4.3.

¹⁶⁶ [Motorola's response to the CMA's Issues Statement](#), 10 January 2022, paragraph 8. [Motorola's Response to the CMA's working paper on Scope for Competition and Market Definition](#), 27 May 2022, paragraph 7.

¹⁶⁷ [Motorola's Response to the CMA's working paper on Scope for Competition and Market Definition](#), 27 May 2022, paragraph 18 - 23.

¹⁶⁸ [Motorola's response to the CMA's Issues Statement](#), 10 January 2022, paragraph 13.

¹⁶⁹ [Motorola's Response to the CMA's working paper on Scope for Competition and Market Definition](#), 27 May 2022, paragraph 55, 57 and 58. Motorola made similar submissions to us in an update note on 7 September 2022 (paragraphs 13 and 14) to the effect that the Home Office's procurement of ESN to replace the Airwave Network deprives Airwave Solutions of its entire customer base and it cannot, actually or potentially, compete against ESN for those customers. The arrangement under which the Airwave Network is provided is just a contract in 'run-off' and 'the Airwave service is simply the execution of a contract on agreed terms.'

¹⁷⁰ [Motorola's response to the CMA's market investigation reference](#), 15 November 2021, paragraph 163.

- (a) Whether the supply of LMR network services amounts to a single contract between two willing parties and whether it can constitute a market, and the implications of this for the applicability of the market investigation regime;¹⁷¹
- (b) the types of competitive processes that can exist in bidding markets and the relevance of the tender for the original PFI Agreement;¹⁷²
- (c) whether investment in ESN by Motorola can, in principle, be thought of as a form of competition with Airwave Solutions – or would be a form of competition if Motorola did not own Airwave Solutions;¹⁷³
- (d) the role of the contractual provisions established in 2016 in our competitive assessment;¹⁷⁴ and
- (e) the role of choices made by the Home Office in that assessment.¹⁷⁵

3.8 Our assessment noted ways in which competition might in principle occur where parties have entered into contracts. The provisional findings we made were that:

- (a) Neither the contract between Airwave Solutions and the Home Office (the PFI Agreement), nor those with other users, precluded the existence of a market that may be subject to a competition assessment. Analysis of contracts may form part of the CMA's market assessment, usually in order to provide a deeper understanding of contract terms and their enforcement, as these may provide an indicator of competitive distortions. There was scope for negotiations during the lifetime of the contracts and for the conditions of competition to evolve over that period. Both had happened in this case.¹⁷⁶
- (b) Tenders, like the procurement process that led to the PFI Agreement, were a relevant form of competition in this market. Nonetheless, there was also scope for other forms of competition – such as negotiations and continued investment in the replacement service – to exist once competition for the tender had concluded. These could occur – and in this case had occurred – over the life of, and in connection with the end of, the relevant contract. There was likely to be greater value in understanding the nature of competitive constraints within these more recent competitive interactions.¹⁷⁷

¹⁷¹ CMA (2022), [Mobile radio network services provisional decision](#), paragraphs 3.13 – 3.33.

¹⁷² CMA (2022), [Mobile radio network services provisional decision](#), paragraphs 3.34 – 3.47.

¹⁷³ CMA (2022), [Mobile radio network services provisional decision](#), paragraphs 3.48 – 3.71.

¹⁷⁴ CMA (2022), [Mobile radio network services provisional decision](#), paragraphs 3.72 – 3.85.

¹⁷⁵ CMA (2022), [Mobile radio network services provisional decision](#), paragraphs 3.86 – 3.90.

¹⁷⁶ See, in particular, CMA (2022), [Mobile radio network services provisional decision](#), paragraphs 3.27 – 3.32 and 3.91(a).

¹⁷⁷ See, in particular, CMA (2022), [Mobile radio network services provisional decision](#), paragraphs 3.39 – 3.45 and 3.91(b).

- (c) There was competitive interaction between the Airwave Network and ESN, and between Motorola (as a key supplier of ESN) and Airwave Solutions. In the absence of features of the market, such as Motorola's dual role in relation to the networks, the incentive for key suppliers (including, but not limited to, Motorola) to invest in ESN came from the ability to gain profits sooner by more quickly winning customers who currently used the Airwave Network (and who would move to ESN when its safety and quality was assured). The development of ESN was also likely to have an impact on the profitability of Airwave Solutions as it will affect the length of time that customers use the Airwave Network.¹⁷⁸
- (d) There was scope for further negotiations following the negotiation and agreement of the HoTs in 2016. Those negotiations did not involve discussions of what would happen if long extensions of the period of operation of the Airwave Network were required. The Home Office's objectives at that time were to ensure the orderly transfer to ESN then anticipated at the end of the PFI Agreement in 2019/2020. Motorola expected to have to negotiate long-term extensions and that any extensions beyond 2021 would involve negotiation of a new price, which it envisaged could be a potential [X]% reduction in revenue. Our provisional assessment was that the default price set by the 2016 HoTs was therefore not necessarily a fixed price in the sense of being the price that either of the parties expected to be in place for the longer term if the Airwave Network continued to operate significantly beyond 2020. Rather, both parties envisaged a need for further negotiations and a new price in these circumstances (or acted in a way which was consistent with that being the case). Such further negotiations have taken place. Any price agreed as a result of subsequent negotiations can be regarded as the outcome of the market situation at that later time.¹⁷⁹
- (e) The existence of choices that may have been open to the Home Office (particularly where those choices were limited) at certain points prior to 2019/2020 was not sufficient in and of itself to conclude that a market was working well and that features of the market could not adversely affect competition. There were two main reasons:
 - (i) A market investigation involves a current and forward-looking assessment of whether features of the market are preventing, restricting or distorting competition.¹⁸⁰

¹⁷⁸ See, in particular, CMA (2022), [Mobile radio network services provisional decision](#), paragraphs 3.63, 3.69, 3.70 and 3.91(c).

¹⁷⁹ See, in particular, CMA (2022), [Mobile radio network services provisional decision](#), paragraphs 3.76 – 3.85 and 3.91(d).

¹⁸⁰ See, in particular, CMA (2022), [Mobile radio network services provisional decision](#), paragraph 3.87.

- (ii) It can be informative to understand how certain market characteristics have evolved in the past, and the reasons for this but, even if a party did have options open to it, the key question is whether features of the market restricted or distorted them. In this case, the evidence suggested that the Home Office's options may have been limited and / or diminishing for some time prior to 2019/2020. It suggested that a competitive tender to provide the relevant network services between 2020 and 2026 was not a realistic prospect.¹⁸¹ Likewise, procuring ESN to operate as an alternative network alongside the Airwave Network would not have been economically viable. The evidence also suggested that, while the Home Office could have entered into an agreement to extend the period of operation of the Airwave Network in 2018, its main objective then was incentivising the delivery of ESN as soon as possible. Any such agreement would also likely have been adversely affected by the lack of alternative options available to the Home Office.¹⁸²

3.9 Accordingly, our provisional conclusion was that there was scope for competition in the supply of the relevant network services and a market that we could assess. It could be analysed by examining current market dynamics, how they developed and the extent to which they might be the result of features distorting competition.

Responses to the PDR

3.10 Motorola made submissions on these points in response to the PDR. It submitted that:

- (a) Due to the nature of the services, competition is for the market.¹⁸³ As far as the Airwave contract is concerned, Motorola said, the opportunity for competition only existed at the point at which the contract was entered into and at the point at which it was renewed or a change of the end date was agreed.¹⁸⁴ Motorola said that competition took place in 2000 (for the PFI Agreement)¹⁸⁵ and 2015 (for ESN).¹⁸⁶ Once the latter occurred, Motorola said, all that happened in 2016 was a freely agreed amendment to the existing PFI Agreement so that Airwave continued as a back-up until ESN is

¹⁸¹ Owing to reasons including: the initial anticipation (in early 2016) that ESN would be ready to replace the Airwave Network at the end of the PFI Agreement in 2019/2020; subsequent uncertainty about when ESN would be available; the significant lead times associated with procuring any potential replacement network; and the terms of the PFI Agreement which limited the ability to acquire or transfer assets used in the Airwave Network.

¹⁸² See, in particular, CMA (2022), [Mobile radio network services provisional decision](#), paragraphs 3.88 and 3.89.

¹⁸³ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 3.8.

¹⁸⁴ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 2.9.

¹⁸⁵ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 1.11.

¹⁸⁶ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraphs 1.7 and 5.4.

ready (however long that takes), with Motorola having more limited rights to end the agreement than the Home Office.¹⁸⁷ Motorola said that discussions setting those amended terms did not represent competitive interactions, so the 2016 negotiations are ‘irrelevant’ for a competition assessment¹⁸⁸ and there can be no failure of competition. Motorola also submitted that the notion that Airwave Solutions had market power after 2016 and during the term of the contract is ‘hopeless’.¹⁸⁹

- (b) We had used ‘a newly invented theory of how “competitive interactions” between a supplier and a customer are supposed to shape the terms of long-term contracts’ to try to ‘justify’ our ‘ability to intervene’.¹⁹⁰

Our analysis and conclusions

3.11 We have considered relevant ways in which there may be scope for a competition assessment, in light of Motorola’s submissions and to the extent necessary to reach a conclusion for the purposes of this investigation. We set out below our considerations in respect of each of:

- (a) Whether in principle a market exists and a competition assessment may be conducted where parties have entered into contracts;
- (b) the relevance (if any) of the original Airwave tender in our competition assessment;
- (c) the negotiations or price-setting processes that have in practice occurred between the parties and how they inform our competition assessment; and
- (d) the role in that assessment of choices made by the Home Office.

3.12 The conclusions we reach are that:

- (a) There is a market and the existence of a contract or contracts between the parties does not preclude a competition assessment;
- (b) the original Airwave tender has limited relevance in that assessment; and
- (c) there have in practice been price-setting discussions or negotiations between the parties in relation to periods in which, in a well-functioning market, we would expect competitive processes (eg tenders) to have occurred. These

¹⁸⁷ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraphs 1.18, 2.5, 2.28 and 3.2(b).

¹⁸⁸ [Motorola response hearing summary](#).

¹⁸⁹ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraph 2.7.

¹⁹⁰ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraph 1.5.

are informative of the parties' bargaining positions and the effectiveness of competition in the market.

Contracts and market investigations

- 3.13 In this subsection we consider whether, in principle, the supply of LMR network services for public safety by Airwave Solutions amounts to no more than a contract between two willing parties, with no scope for a competition assessment to be carried out, because all the parties' rights and obligations are fully defined and enforceable through the contract between them.
- 3.14 Our first observation is that the existence of a contract, even if it is the only or main contract for relevant goods or services, does not preclude the existence of a market. Nor does it preclude an assessment of whether the terms are set in a competitive process that works well or whether there are features of the market that distort the process.
- 3.15 In particular, the agreement made between the Home Office and Airwave Solutions / Motorola does not mean that the extended PFI Agreement (together with the related services contracts) exists in a 'vacuum' not susceptible to a competition assessment under the market investigation framework. The references to a 'market' in Part 4 of the Act are not intended to suggest that there are commercial relationships between parties that are not 'market' relationships. A market exists where there is an interaction between supply and demand – where one or more parties seek to meet demand from one or more others. The extended PFI Agreement (with the services contracts) is clearly a contract that exists in the relevant market.
- 3.16 Indeed, the extended PFI Agreement (with the related services contracts) is the only operational contract for the supply of the relevant services in the market.¹⁹¹ There is nothing in the Act to suggest that the market investigation framework can only be applied where there are multiple contracts in a market. The interactions between the parties in relation to the extended agreement took place in a market (and set the future price for a period beyond that covered by the original PFI Agreement). That market is susceptible to an assessment of whether there are features of it resulting in an AEC and whether detriment, in the form of prices above the competitive level and thus supernormal profits, flows from that contract.
- 3.17 We also note that the 'features' of the market that we are required by the Act to consider include the conduct of parties who supply or acquire goods and services in the relevant market. Such conduct can also include a failure to act.¹⁹²

¹⁹¹ Along with the supporting services contracts, under which individual users receive services.

¹⁹² See sections 131(1), 131(2), 131(3) and 134(1).

- 3.18 The conduct that may amount to a feature of the market clearly includes the making of contracts. The supply and acquisition of goods and services in a market will very often be based on contracts between parties. If the intention of the Act was to exclude parties' conduct from its scope where that conduct related to arrangements governed by contracts we would expect the Act expressly to say so. It does not (and doing so would deprive the relevant part of the Act of much of its relevance and effectiveness).
- 3.19 We note too that Motorola says there was no competition for us to assess. The Act requires us to assess, amongst other things, whether features of the market 'prevent' competition. An absence of competition is therefore something which we can assess in terms of whether that absence results from features of the market.
- 3.20 We do not therefore agree with Motorola that there is no market here and no scope for a competition assessment. Our finding, for the reasons set out immediately above, and the further reasons in the following paragraphs, is to the opposite effect.
- 3.21 We agree with Motorola that competition in this market is typically characterised by competition *for* the market.¹⁹³ Specifically, by way of tender processes from time to time which set the applicable terms and price for fixed periods. Such tender processes lead to a sole provider of LMR network services rather than multiple providers competing in an ongoing competitive process (aka competition *in* the market). A tender for the market happened in or around 2000 resulting in the PFI Agreement and in 2014/2015 for ESN.
- 3.22 Nevertheless, as set out in Appendix D, we consider that:
- (a) The CMA's statutory powers under the market investigation regime are based on the premise that markets do not always deliver effective outcomes; and
 - (b) contracts are likely to be affected by the relative strength of the parties' market power, both when the contracts are established and in any subsequent negotiations, for example when resolving issues arising from incomplete contracts or when renegotiating. As noted by Motorola, the parties have 'continued to see whether there may be mutually beneficial adjustments to the terms.'¹⁹⁴ Even where two contracting parties freely enter into a long-term supply agreement reflecting each party's degree of market

¹⁹³ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 3.8.

¹⁹⁴ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 2.12. We note that Motorola has submitted that 'This is simply ordinary and expected commercial behaviour in a long-term contract and the CMA's attempt to transform it into an excuse to try to intervene as if competition was taking place is unreasonable.'. However, we consider that, while not being competitive processes in and of themselves, the outcomes of these types of interaction are informative of whether there are features of the market which limit or distort competition.

power at the time of agreement, this does not preclude an outcome that is inconsistent with a well-functioning market.

- 3.23 Long and complex contracts typically require subsequent negotiations. They may also, as Motorola notes, be renewed or their end dates changed.¹⁹⁵ To avoid a break in service, this would typically occur before the expiration of the existing contract. We observe that, in this case, the PFI Agreement has indeed been the subject of amendments, ongoing discussion or negotiation, and in some cases disputes and disagreements (see Appendix D).
- 3.24 Motorola has submitted that, because competition for the market determines outcomes, any bilateral negotiations in relation to the PFI Agreement did not represent a competitive process (see paragraph 3.10(a)), the implication being that we cannot learn anything about the market from the negotiations between Motorola and the Home Office. Indeed, Motorola told us that, ‘Current competitive conditions in the market were set in 2000’¹⁹⁶ However, we note that Motorola has also submitted that the ‘opportunity for competition’ arises when contracts are renewed or their end dates changed¹⁹⁷ and that the Home Office had ‘maximum leverage’ in the 2016 negotiations as it could have threatened to withhold its consent to Motorola’s acquisition of Airwave Solutions.¹⁹⁸
- 3.25 We observe that, in the period when the 2016 negotiations occurred, a tender process did not take place as we might, in principle, have expected in a well-functioning market where the original fixed-period of the PFI Agreement was ending (see section 4 of this report). We consider further in section 4 the extent to which that was a result of features of the market which are the subject of our investigation and which restricted the Home Office’s options. In particular, that the Home Office had procured and entered into contracts for ESN to replace the Airwave Network and expected that to occur in 2019 and, in the circumstances, the Home Office was not in a position to acquire the Airwave Network assets and retender the provision of services using them at the end of the original fixed period of the PFI Agreement, or credibly to threaten to do so (see further in section 4).
- 3.26 However, the negotiation process in 2016 was a process through which prices and other terms were set for a period in which no price or other terms otherwise existed.¹⁹⁹ In other words, it involved the setting of prices in relation to a period where, in principle in a well-functioning market, we would expect the price to be set in a competitive process like a tender (or the realistic threat of a tender). The

¹⁹⁵ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraph 2.9.

¹⁹⁶ Motorola Response hearing with the CMA on 10 January 2023. [3<]

¹⁹⁷ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraph 2.9.

¹⁹⁸ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraph 1.18.

¹⁹⁹ And those which took place in 2018 and 2021 were negotiations of the price for periods in which the parties had not expected the previously agreed price to apply.

negotiations were a price-setting process that occurred rather than such competition.

- 3.27 Even if the negotiations were not a competitive process, it would be irrational for us to ignore price-setting processes that, because of the features of the market, may not have been subject to competition, or to ignore the outcomes of these processes. Such processes and their outcomes are likely to be informative of the relative bargaining power of the parties and the state of competition in the market. As such, those processes are an important part of our assessment of whether features of the market are likely to have an adverse effect on competition.
- 3.28 We also note that, as we say in paragraph 3.17 above, conduct that may amount to a relevant feature of the market can include ‘any failure to act’. Insofar as Motorola’s submissions that (i) the ‘opportunity for competition’ arises when contracts are renewed or their end dates changed;²⁰⁰ and (ii) the Home Office had ‘maximum leverage’ in the 2016 negotiations, are contentions that the Home Office could have acted but failed to do so, that too is a matter capable of assessment under the market investigation framework.

Conclusion

- 3.29 Our conclusion, therefore, is that the outcome of negotiations between the parties, even in the context of the contract between them, is informative of their bargaining power and the competitive position in the market. The scope for a competition assessment is not displaced by the existence of contractual rights (or by the failure of one party to take advantage of opportunities for negotiation).

The tender for the original PFI Agreement

- 3.30 The way in which competition may occur in a market is another important consideration in our assessment. As outlined above, Motorola’s submission is that the main form of competition which existed was ‘competition for the market.’ It submitted that we should therefore assess the market by reference to competition in the tender for the original PFI Agreement. Accordingly, in the context of our assessment being forward-looking, in this subsection we consider the extent to which, if at all, assessing competition in the original tender won by Airwave Solutions is relevant.
- 3.31 For the reasons that follow, our view is that, while the original process provides one example in principle of the type of competitive process we might observe in a well-functioning market (see further in section 4), there is likely to be limited value

²⁰⁰ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraph 2.9.

in understanding the competitiveness of that tender for the purposes of our assessment of the market now. We make four observations in this regard.

- 3.32 First, the circumstances in which the original procurement occurred gave the Home Office the opportunity, in principle at least, to run an open competition for a supplier of the network and, as a result, to agree terms that constrained the price of its provision for the original fixed-period of the PFI Agreement. In that competition, the winning supplier could reasonably have been expected to set the price at a level that would enable it to cover its expected costs and give it the chance to earn a reasonable return over that period. That is what, it appears to us, was intended to happen (see sections 4 and 6).
- 3.33 As part of the relevant procurement exercise, the Home Office issued a Project for Procurement for the PFI Agreement in the OJEC in January 1996, which invited bids, made specific reference to the duration (up to 19 years) of the contract that would result and did not envisage extensions.²⁰¹ The result of the exercise was the PFI Agreement which provided for a fixed-term arrangement ending at a point to be determined in 2019 or 2020 without terms relating to, or contemplating, its extension. The price was agreed using a model that assumed the chance for the supplier to earn a [15% to 20%] return on its investment in building and providing the network and services over that period. The PFI Agreement contained terms which sought to provide for the transfer of network assets to the Home Office at the end of the fixed contract period.
- 3.34 The second observation is that, while the process was of the type we might expect in a well-functioning market, its competitiveness in practice has been reviewed by the NAO. There were 70 responses to the OJEC notice but, by April 1997, BT was the sole bidder (and knew that was the case when the price was negotiated), and the NAO reported that, in its view, the procurement process was subject only to limited competition.²⁰²
- 3.35 The third observation is that, in our view, the position is materially different now the original period of the PFI Agreement has ended compared to that when the first tender occurred. The original terms of the PFI Agreement were set to apply only for the fixed period to around the end of 2019 / early 2020. The supplier's expected capital expenditure for providing the network and services to the end of that period were fully accounted for in its bid for the contract.
- 3.36 In that context, competition in the tender for the original PFI Agreement has limited relevance in the assessment of competition now. As well as being only set to apply for a fixed period that has now ended, some terms of the original PFI Agreement have been altered through subsequent negotiations. The outcomes of negotiations

²⁰¹ The Notice published by the Home Office in the OJEC in January 1996.

²⁰² NAO (2002), [Public Private Partnerships: Airwave](#) (HC 730).

are affected, among other things, by the competitive constraints which a firm faces at the time they take place and the extent to which it has incentives to offer attractive terms to retain customers.

- 3.37 While past and extant contractual terms are likely to represent a starting point in any negotiation (or renegotiation), the eventual outcome of a negotiation – ie how far the terms move from that starting point – is determined by the bargaining power of each party at that time. Bargaining power is affected by firms' outside options and their perception of future market circumstances such as potential future contracting opportunities with the other party and third parties, rather than market circumstances at the time of the original contractual negotiations.
- 3.38 Furthermore, the pricing under the original PFI Agreement covered the cost of setting up the network. By the time the parties (in 2016) came to negotiate the terms that would apply after the original fixed period of the PFI Agreement (ie after in 2019/20), we would have expected the prices to fall given that the network had been set up and operational for some time. This is not what happened.
- 3.39 Where elements of the original contract have continued (when in principle they could have been amended) this is more reflective of the bargaining power of each party over time and the extent of subsequent competitive constraints than the competitiveness of the tender in which they were first set. This is particularly the case in relation to a contract that was the consequence of a procurement exercise that resulted in a fixed-term arrangement without terms relating to or contemplating its extension; where that contract has been in force for over 20 years; and where there have been significant developments in market context, including the network now having been established, the set-up costs having been incurred, changes in control of the parties, the potential for new technologies (and the procurement of the replacement network using them), and the extension of the period of the contract.
- 3.40 Our fourth observation is that the original PFI Agreement only set out the terms on which the police services could access the Airwave Network in any event. The terms for the fire and ambulance services were determined through separate tender processes.

Conclusion

- 3.41 Accordingly, our conclusion is that the original tender process is relevant context, but we give it limited weight in our assessment of competition today. Current market outcomes can be expected to have been determined to a larger degree by the relative bargaining power of the negotiating parties when discussing and seeking to agree those outcomes.

- 3.42 The appropriate focus is therefore on the more recent interactions between the parties – their price-setting negotiations – within the context of our forward-looking assessment of whether features of the market affect competition. We consider the nature of competitive constraints within these more recent interactions in the following paragraphs and in section 4 of this report.

The role of the contractual provisions established in 2016 in our competitive assessment

- 3.43 We have set out above (see paragraph 3.29) our conclusions about the effect, in principle, of contractual agreements on the existence of a market and the scope for conducting a competition assessment. We note among other things that contractual terms may be the subject of further negotiation and that contracts may be renewed or their terms and/or end dates changed. We explain our view that the existence of an agreement between the Home Office and Airwave Solutions renewing or changing a contract (or the opportunity for such renewal or change that is not acted upon) does not in itself remove the scope for conducting a competition assessment. In the following subsection we consider specifically what the negotiations and price-setting processes that have occurred in practice since 2016 – when Motorola acquired Airwave Solutions and the parties entered into the HoTs – can tell us about the parties’ relative bargaining power and the competitive position in the market.
- 3.44 Motorola’s submissions in this context are that there has been no such scope for competition since 2016 as the terms on which the blue light services access the Airwave Network were agreed in the 2016 negotiations and set out in the resulting HoTs. It has said that the 2016 negotiations were not themselves a process that involved competition and cannot be subject to a competition assessment. It has also told us that, while there were times when competition could have occurred, it did not because of the free and informed choices the Home Office made.
- 3.45 In this subsection we therefore consider both:
- (a) Whether there have been price-setting processes since 2016 that took place in circumstances where, but for features of the market, we would have expected competitive processes to occur, taking account of Motorola’s view that there has been no requirement to negotiate after that date; and
 - (b) the role of the Home Office’s choices in our competitive assessment.
- 3.46 The conclusion we reach is that negotiations between the parties since 2016 are informative of the Home Office’s bargaining power, and of the competitive position in the market, in 2016 and subsequently. The position they agreed upon in 2016 did not displace that scope nor preclude either a competition assessment or findings of competitive distortion.

The relevance of price-setting processes since 2016

- 3.47 Here we consider what negotiations regarding price-setting in and since 2016 can tell us about the bargaining power of the Home Office and the competitive position in 2016 and subsequently. This assessment is relevant to understanding whether there was scope for competition to influence outcomes since 2016. We look firstly at each party's expectations about the 2016 negotiations and the extent to which they perceived that there would be further negotiations if longer extensions to the period of operation of the Airwave Network were required. We then consider the extent to which such negotiations have occurred in practice.
- 3.48 Based on the evidence we have considered, it does not appear to us that a long-term extension of the Airwave Network was envisaged by the Home Office at the time of the 2016 negotiations. The purpose and the focus of the negotiations of the HoTs (see section 4 and Appendix E) from its perspective was the alignment of the various Airwave Network contracts to ensure the orderly closure of the Airwave Network and its (then anticipated) replacement by ESN by the end of the original period of the PFI Agreement period in 2019/2020. The Home Office sought to achieve that while (i) providing enough flexibility to account for any short delays if they arose, particularly in the take-up of ESN in various regions; and (ii) ensuring that the duration of the extensions reflected the conflicting objectives of the Home Office to minimise cost and of Motorola to maximise cash flow.
- 3.49 The Home Office also considered at the relevant time that any substantial extension of the period of operation of the Airwave Network presented significant legal and commercial risks (these are considered in more detail in section 4 and Appendix E, along with other limits on the Home Office's options). Insofar as it might have been prepared to consider longer extensions if necessary in due course, the evidence is consistent with them being subject to further negotiation from the Home Office's perspective.²⁰³
- 3.50 Motorola appears to have entered the negotiations with different expectations, according to its internal business documents (and notwithstanding what it had told the Home Office and agreed with it,²⁰⁴ and what it had told the CMA in the 2016 merger control assessment,²⁰⁵ about the delivery of ESN). In particular, it contemplated that there would more likely than not be some extension of the

²⁰³ See for example, email exchange between the Home Office and Motorola, January 2016. [REDACTED]

²⁰⁴ Internal Home Office presentation, 7 October 2015, ESMCP Full Business Case October 2015. [REDACTED]
ESMCP Transition Plan History 09/09/2015 [REDACTED]

The initial delivery timetable for putting ESN in place prior to the transition between networks was extended from 17 to 21 months in consultation between the Home Office, EE and Motorola. Internal Home Office document, 6 October 2015. [REDACTED] During negotiations, the Home Office had offered to increase that timetable to 24 months, but both EE and Motorola stated that 21 months would be sufficient. Internal Home Office document [REDACTED]

Minutes of the Motorola kick-off meeting, 7 December 2015 [REDACTED]

Email from Motorola to Home Office, 27 January 2016, from Motorola's [REDACTED] to the Home Office's [REDACTED]

²⁰⁵ See paragraphs 4.23 and 4.122 below.

operation of the Airwave Network beyond 2019.²⁰⁶ It was modelling for itself the position where those extensions ran to 2024.²⁰⁷ Motorola's February 2016 update to its board²⁰⁸ following the negotiations indicates that:

- (a) It assumed that the Airwave Network contracts would be extended by at least 18 months to 30 June 2021 at the then current price and that this would result in a significant improvement (of \$[redacted] million) to the November 2015 business case for the Airwave Solutions acquisition; and
- (b) longer extensions beyond 30 June 2021 would involve negotiations, not automatic extensions (as illustrated by the assumption put to its board that a discount of [redacted]% would be given from 2022).²⁰⁹

3.51 The point in sub-paragraph (b) above is consistent with other internal Motorola documents we have seen. They also show that Motorola's senior management expected that any substantial extension to the operation of the Airwave Network would require negotiation (see Appendix E).

3.52 In that context, we do not regard the 'default price' set by the HoTs as the price which would necessarily exist for any extended period of operation of the Airwave Network after 2019. Rather, it was an outside option²¹⁰ that the Home Office would have in any future negotiations and the 'default price' could be subject to further negotiation depending on other outside options that may be available at the time.

3.53 We also observe that, consistent with each party's expectations, there have been subsequent negotiations (the implications of which for our competition assessment we consider in section 4 of this report):

- (a) Since 2016, there have been further negotiations in 2018 and 2021 which led to amendments to the terms on which the blue light services access the Airwave Network.
- (b) Motorola, in its submissions, appears to accept that terms have been amended over time, including after 2016. It told us that, whilst other suppliers take the position that once a contract is signed it cannot be adjusted, where

²⁰⁶ Although, equally it does not appear to have considered multi-year delays to ESN transition, and extensions to the operation of the Airwave Network, to have been likely. It estimated [redacted] chance of the transition to ESN being complete by the end of 2020 and [redacted] chance that would not be the case. It estimated [redacted] chance the transition would be complete by the end of 2022. Motorola document, 17 November 2015. [redacted]

²⁰⁷ For example: Internal Motorola presentation, January 2016 [redacted]; internal Motorola email, January 2016. [redacted]

²⁰⁸ Internal Motorola presentation, February 2016 [redacted]

²⁰⁹ Internal Motorola email, December 2017 [redacted]; Internal Motorola presentation, 2017. [redacted]

²¹⁰ See: [Guidelines](#), paragraph 176: this refers to the alternative strategies that are open to the buyer and is often the crucial determinant of countervailing buyer power.

possible it tries to accommodate the customer, including by providing discounts that it was under no obligation to provide.²¹¹

- (c) We have also seen evidence that suggests that negotiations have not solely been initiated by the Home Office (and regardless of who initiated them, both parties engaged in discussions that show they regarded the price of any extension of the Airwave Network as subject to negotiation):
 - (i) There is evidence that in late 2017 / early 2018, Motorola was encouraging the Home Office to start renegotiations (rather than the other way around);²¹²
 - (ii) in 2018, Motorola set out in documents prepared for internal business purposes what it was prepared to trade off within negotiations;²¹³ and
 - (iii) in relation to the 2021 negotiations, Motorola set out its objectives and strategy for the upcoming negotiations before the Home Office had approached it²¹⁴ and, as part of these negotiations, it made the case to the Home Office that the Airwave core charge should increase by £[redacted] million to fund its proposed capex investment.²¹⁵

3.54 We have considered Motorola's view that the only amendments to contract terms since 2016 have been due to unilateral demands by the Home Office for ex gratia discounts to the price for the continued operation of the Airwave Network agreed in the HoTs.²¹⁶

3.55 That one party has initiated a discussion about prices and terms does not appear to us to mean there is not a negotiation nor does it appear to be informative as to whether there are features of the market distorting competition. Any negotiation will start with one party making a request of the other. Whether such a request is made, and how the other party chooses to respond, can be indicative of competitive conditions. The party making the demand is more likely to be successful if it has the implicit or explicit threat to pursue an outside option, whilst the party being presented with the demand has the choice of whether to accept it or not. This choice will also likely be influenced by the wider market context, such as reputational concerns and consideration of 'trade offs' against other possible contractual concessions.

²¹¹ Motorola Hearing with the CMA on 10 February 2022. [redacted]

²¹² Email exchange between the Home Office and Motorola, February 2018 [redacted] and email exchange between the Home Office and Motorola, November 2017. [redacted]

²¹³ Internal Motorola email, October 2017 [redacted]

²¹⁴ Internal Motorola presentation, August 2020, [redacted]

²¹⁵ Internal Motorola presentation, June 2021. [redacted]

²¹⁶ [Motorola's response to the CMA's market investigation reference](#), 15 November 2021, paragraph 4.

- 3.56 Accordingly, our view is that the position reached in 2016 should not be regarded as displacing any scope for further negotiations. Nor does it preclude our competition assessment and the possible finding of competitive distortions. There have, consistent with the parties' positions in 2016, been subsequent negotiations between them regarding Airwave Network services, setting the price for periods in which the existing price either did not, or was not expected to, apply (rather than the price being set in the sort of competitive process we might expect in the well-functioning market). These negotiations are likely to be informative of the Home Office's bargaining power and the competitive position in the market.

The role of choices made by the Home Office in our competitive assessment

- 3.57 As outlined above, Motorola has submitted that the scope for competition is determined by choices made by the Home Office and, as a result of these decisions, there are instances where competition could have taken place but did not. In this subsection we consider two potential implications of these submissions – first that our competitive assessment should include consideration of how competition may have evolved had the Home Office made different choices and second that the fact that the Home Office had choices available is indicative of the market working well.
- 3.58 We firstly note that a market investigation looks at a market on a current and forward-looking basis to assess whether features of the market are preventing, restricting or distorting competition. While it can be informative to understand how and why certain market characteristics have evolved in the past, undertaking an assessment of how competition could have evolved had the Home Office made different choices is less relevant. A failure by the Home Office to take advantage of opportunities may also amount to conduct that we should take into account in assessing the competitive conditions in the market.
- 3.59 We have considered whether the fact that the Home Office might have had choices available in the past means that the market is necessarily working well. Our starting point is that even if the Home Office did have options available in the past, the key question is whether features of the market restricted or distorted those options.
- 3.60 In addition, we note that even if options were in theory available to the Home Office this does not mean that these were (or would have been) effective in constraining the price to the competitive level. Consistent with this, we note that the evidence available to us suggests that in practice the options available to the Home Office may have been limited and / or diminishing for some time:
- (a) While the Home Office could in theory have chosen to run a competitive tender process for the period 2020-2026, this might not have been an effective option for reasons including the initial anticipation (in early 2016)

that ESN would be ready to replace the Airwave Network at the end of the PFI Agreement in 2019/2020, subsequent uncertainty about when ESN would be available, the significant lead times associated with procuring any potential replacement network, and the uncertainty arising from the terms of the PFI Agreement which in practice limited the ability to acquire or transfer assets used in the Airwave Network. We assess each of these and other relevant matters later in this report.

- (b) The Home Office could have procured ESN as an alternative network alongside the Airwave Network, but it seems highly likely that operating two competing networks would not have been economically viable. In fact, in its review of options for dealing with the end of the original fixed-period of the PFI Agreement (see section 4), the Home Office considered whether to commission a second TETRA network and reached the conclusion that it was not economically viable.²¹⁷
- (c) Whilst the Home Office could in theory have chosen different deal durations (for extending the period of operation of the Airwave Network) offered by Motorola in 2018, its main objective was in incentivising the delivery of ESN as soon as possible (see section 4 and Appendix E) and this will likely have limited the scope for the Home Office to choose longer extensions. It is also likely that these 'deals' could have been better in the absence of features of the market (such as the lack of credible alternative options available to the Home Office). We observe that under these deals the price of Airwave Network Services would, in our assessment, have remained substantially above the competitive level.
- (d) Ultimately, however, the Home Office did not take these options and our assessment is forward-looking.

3.61 Accordingly, it seems to us that the existence of choices (particularly where those choices are limited) is not sufficient in and of itself to conclude that a market is working well and that features of the market cannot adversely affect competition.

Overall conclusions on scope for competition

3.62 We have therefore reached these overall conclusions on the following points, taking account of the submissions Motorola has made about them:

²¹⁷ Home Office Briefing, 2017. [§<] We also note that in or around 2004/05, when the Cabinet Office ran a competitive tender process for a new communications system for ambulance services in England and Wales, it found that competition was limited, in part because of the significant cost of putting in place a second, competing national network - Ambulance Radio Programme response to Q3 of the RFI dated 17 December 2021 [§<]

- (a) **That there is no market to analyse and that this matter is simply about a contract between two willing parties:** This is not our conclusion. There is one framework contract (the (extended) PFI Agreement), and related service contracts containing different terms and serving different user needs, overseen by the Home Office. Neither the contract between Airwave Solutions and the Home Office (the PFI Agreement), nor those with other users, preclude the existence of a market that may be subject to a competition assessment. Even after a contract is entered into, there can be, and were, price-setting discussions or processes taking place or opportunities for such discussions or processes. They can be, and in this case are, informative of the parties' bargaining power, and the effectiveness of competition (and the extent to which it is present at all) in the context of the features of the market.
- (b) **That competition is for the market and the 2000 PFI procurement should be a key part of our competitive assessment:** Tenders are a relevant form of competition in this market, both in the past and in how it might work in a well-functioning market. Nevertheless, with respect to the PFI tender in 2000, given the limitations on its competitiveness observed by the NAO, and the time that has elapsed and the way these contracts and the market have evolved since 2000, we consider that competition in that tender has limited relevance in the assessment of competition now. As such we consider there is greater value in understanding the nature of competitive constraints within current price-setting processes.
- (c) **That there is no scope for competition since the negotiation and agreement of the HoTs in 2016:** The negotiations in 2016 did not involve discussions of what would happen if long (multi-year) extensions of the period of operation of the Airwave Network were required. The Home Office's objectives at that time were to ensure the orderly transfer to ESN then anticipated at the end of the PFI Agreement in 2019/2020. Motorola expected to have to negotiate longer-term extensions and that any extensions beyond 2021 would involve negotiation of a new price, which it envisaged could be a potential [X]% reduction in revenue. The default price set by the 2016 HoTs is therefore not necessarily a fixed price in the sense of being the price that either of the parties expected to be in place for the longer term if the Airwave Network was to continue in operation significantly beyond 2020. Both parties envisaged that there would be a need for further negotiations and a new price in these circumstances (or acted in a way which was consistent with that being the case). Any price agreed as a result of subsequent negotiations

can therefore be regarded as the outcome of the market situation at that later time.²¹⁸

- 3.63 On those bases, in our view, the current situation in relation to the Airwave Network should not be treated as merely the continuation of the arrangements agreed at the time the PFI Agreement was entered into (or as a back-up agreement between the parties) with no scope for a competition assessment. The present situation is capable of being analysed by examining current market dynamics, how they have evolved and the extent to which such dynamics might be the result of features distorting, restricting or preventing competition within the relevant market. We carry out this analysis in sections 4 and 5 of this report, having first defined the relevant economic market.

Market definition

- 3.64 Market definition is the process to identify the boundaries within which competition occurs for particular goods and services, such as which firms compete for which customers' business.
- 3.65 Defining the market can help to focus on the sources of any market power and provides a framework for the assessment of the effects on competition of features of a market.²¹⁹ In doing so the CMA may conclude that the market should be defined more widely or more narrowly than the goods and services or areas of supply set out in the terms of reference.²²⁰
- 3.66 As set out in our Guidelines, market definition is a useful tool but not an end in itself, and identifying the relevant market involves an element of judgement. The boundaries of the market do not determine the outcome of our competitive assessment of a market in any mechanistic way. The competitive assessment takes into account any relevant constraints from outside the market, segmentation within it, or other ways in which some constraints are more important than others.²²¹ Market definition and the assessment of competition are not distinct chronological stages of an investigation but rather are overlapping and continuous pieces of work, which often feed into each other.²²²
- 3.67 Our starting point for assessing market definition is the set of products and services identified in the terms of reference for this investigation, namely 'the

²¹⁸ Even if the terms entered into in 2016 represented an unfavourable deal for the Home Office, locking-in pricing for the long term, and this reflected the weak negotiating position the Home Office then found itself in, there would still be scope in a well-functioning market for future competitive conditions to evolve so as to strengthen its outside options, and for this to be reflected in future negotiations.

²¹⁹ [Guidelines](#), paragraph 132.

²²⁰ [Guidelines](#), paragraphs 26 and 131.

²²¹ [Guidelines](#), paragraph 133.

²²² [Guidelines](#), paragraphs 94-95

supply of LMR network services for public safety (including all ancillary services) in Great Britain'.²²³

- 3.68 In the following paragraphs, we first summarise the provisional view we consulted upon in the PDR, we then summarise the responses we received to the PDR and set out our assessment in the light of those responses and our conclusions. We consider in turn the two main dimensions of market definition – the product dimension and the geographic dimension.

Our provisional view in the PDR

- 3.69 Our provisional view set out in the PDR was that the relevant market was the supply of communications network services for public safety and ancillary services in Great Britain.

Responses to the PDR

- 3.70 The parties made very limited submissions on market definition in response to the PDR:
- (a) Motorola simply noted our proposed market definition and that this had changed since the CMA's consultation on the proposed reference for a market investigation;²²⁴ and
 - (b) the Home Office agreed with and supported our provisional conclusions on market definition. Regarding ancillary services, it noted that while some ancillary services may be subject to competition, the majority of ancillary services purchased by the majority of Airwave Network users can only be purchased from Airwave Solutions.²²⁵

Product market definition

- 3.71 In forming our views on market definition, we consider the degree of demand-side substitutability. In some markets, supply-side constraints will also be important.²²⁶

Parties' views

- 3.72 Prior to our PDR, we had received several submissions which were relevant to our assessment of market definition:

²²³ [Terms of Reference](#), 25 October 2021, paragraph 3.

²²⁴ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 3.1 and footnote 40.

²²⁵ [Home Office's response to the CMA's Provisional Decision Report](#), 22 November 2022, paragraphs 2.3–2.4.

²²⁶ [Guidelines](#), paragraph 130.

- (a) Motorola had submitted that ESN will replace the Airwave Network and there was no competitive relationship between the Airwave Network and ESN;²²⁷
- (b) the Home Office had submitted that the fact that ESN is intended to replace the Airwave Network confirms that ESN is a potential demand and supply side substitute for the Airwave Network and could be in the same economic market;²²⁸
- (c) EE had submitted that we should consider the dynamic competitive interactions between the Airwave Network and ESN;²²⁹ and
- (d) the Home Office had submitted that the inclusion of ancillary services is appropriate as we should consider all services that are potentially relevant to an adverse effect on competition.²³⁰

3.73 In the following subsection we consider:

- (a) Whether LTE network services for public services (which describes the prospective ESN services) should be included as part of the relevant market; and
- (b) the extent to which ancillary services (including interworking²³¹) are in the same product market as the LMR network, or whether these ancillary services are a separate product market.

LTE network services (ESN)

3.74 ESN is the network which is being designed to replace the Airwave Network. Among other benefits, it is expected to be able to provide users with greater mobile broadband functionality than the Airwave Network. The government put contracts for the delivery and roll-out of ESN out to tender in 2014 and awarded them to multiple suppliers (including Motorola) in 2015. It is intended that once ESN has been built, and all users transferred to it, the Airwave Network will be switched off. This will be 2026 at the earliest but for the reasons set out in section 4 is unlikely to occur before 2029.

Our assessment

3.75 Motorola has submitted that there cannot be a competitive interaction between the two networks because ESN has been designed to replace the Airwave Network,

²²⁷ [Motorola's response to the CMA's market investigation reference](#), 15 November 2021, paragraph 155.

²²⁸ [Home Office response to the Issues Statement](#), 10 January 2022, paragraph 15.

²²⁹ [EE's response to the Issues Statement](#), 14 January 2022, paragraph 5.

²³⁰ [Home Office's response to the CMA's market investigation reference](#), 26 August 2021, page 3.

²³¹ The technological solution enabling users to communicate across both the Airwave Network and ESN during the period of transition between those networks.

and the transition has been agreed within contracts and does not depend on the relative attractiveness of each network. Our view is that there is potential for competitive interactions between ESN and the Airwave Network. In particular, although ESN is still in development and therefore is not available in the short term, a central incentive for ESN's suppliers to develop ESN in a timely manner comes from winning new customers from the Airwave Network. We also note that the prospect of ESN being developed as a replacement for the Airwave Network could, in principle at least, affect the incentives of Airwave Solutions to maintain or improve aspects of its offering with a view to delaying customers transferring to ESN.

- 3.76 Static competition refers to competitive efforts taken by firms that results in customers being won or lost in the short term (for example, within a year). This might include reducing the prices offered in a negotiation. Dynamic competition refers to competitive efforts that lead to winning customers sometime after the competitive effort is made (for example, investments made today may result in winning new customers several years in the future). Both dynamic and static competition are relevant in this market. A supplier may face different constraints when competing statically than when it competes dynamically. Therefore, when considering the appropriate product market, we have considered demand-side and supply-side substitutability through both lenses.

Demand-side substitutability

- 3.77 Substitutability in the short run may be different from substitutability in the longer term. In the short run firms compete using the products in their existing portfolios. In the longer term, firms may compete by improving their product portfolios.²³² In this case, as discussed in paragraph 3.21, competition in the supply of LMR network services for public safety takes place over the longer term.
- 3.78 Dynamic competition between the Airwave Network and ESN falls within this category of longer-term competition, because it involves the efforts and investments made by ESN's suppliers to develop a new offering²³³ which would serve as a replacement for LMR network services and therefore 'steal' Airwave Solutions' customers in a timely manner (ie induce demand-side substitution). It can also include efforts by Airwave Solutions to retain customers and prevent or delay them switching to ESN.

²³² [Guidelines](#), paragraph 136.

²³³ That is, a set of products and services which, although they differ in terms of their pricing and supplier structure, would as a whole replace the Airwave Network and services. For the purposes of market definition, it does not appear to us that the differences in pricing and supplier structure affect that definition. As far as users are concerned, both the Airwave Network and services and ESN comprise the network and services they will use for emergency communications services.

- 3.79 The CMA's assessment of the relevant market in the context of this sort of longer-term competition may be concerned with identifying firms that have the capability to introduce new or improved substitute products.²³⁴ In this respect:
- (a) ESN is being developed to meet the same fundamental demand-side need that the Airwave Network has met, namely providing communications network services including MCPTT functionality for Great Britain's blue light emergency services. The Airwave Network and ESN are the only two solutions that exist or are in development that meet or have the potential to meet this demand-side need.
 - (b) ESN is planned ultimately to replace the Airwave Network for Great Britain's emergency services when it is developed. Once the Home Office, in consultation with users, has decided that ESN is ready for transition, Airwave Solutions' customers are expected to switch to ESN.²³⁵ The transition to ESN is expected to happen over time. Individual customers will be able to influence the schedule for switching and will have some choice as to when they switch.²³⁶ In this period users who have already moved to ESN will be able to communicate with those still using the Airwave Network through the interworking solution that the Home Office will procure. There are no other alternatives to ESN under development, and no others are expected to be developed. In this respect, from the perspective of Airwave Solutions, ESN represents the only significant long-term competitive threat that could reduce its customer base and Airwave Solutions will lose 100% of its customer base to ESN in due course.
 - (c) From the perspective of ESN's key suppliers, all (or virtually all) of the profits they can expect to earn by developing ESN's services and selling them to customers will be derived from organisations that are currently customers of Airwave Solutions. If ESN's key suppliers were to reduce the efforts or investments that they were making to develop ESN, such that ESN would be delayed or otherwise deteriorated as a viable alternative to the Airwave Network, the beneficiary of such a reduction in innovation efforts would be mainly or exclusively Airwave Solutions.

²³⁴ [Guidelines](#), paragraph 136.

²³⁵ The Home Office told us that it will make the decision about when to begin moving onto ESN based on when it is satisfied that the technology is correct and meets the requirements of the users. It told us it would make this decision in agreement with the senior user representatives on the programme. Home Office Hearing with the CMA on 2 March 2022, [3<].

²³⁶ The Home Office told us that it expects that mass transition to ESN will take place over 27 months. It said that it is working with user organisations to decide the order of transition and the biggest single factor which determines this is when coverage will be available in a particular area. Home Office Hearing with the CMA on 2 March 2022, [3<]. Also, Scottish Ambulance Service response to Q11 of the RFI dated 17 December 2021, NFCC response to Q11 of the RFI dated 17 December 2021 and Police response to the RFI dated 13 January 2022, covering email received 22 March 2022. [3<]

- 3.80 In light of the above, any efforts and investments made by ESN's key suppliers to develop ESN can be interpreted as efforts towards attracting customers away from Airwave Solutions and replacing it as a solution for Airwave Solutions' customers. Because Airwave Solutions' only demand-side competition is dynamic competition from ESN's key suppliers developing a new solution, and the only demand-side alternative from which ESN can attract customers is the Airwave Network, our view is that the market includes both the existing TETRA Airwave service and the LTE network services for public services (ie ESN).
- 3.81 In assessing the demand-side substitutability between the Airwave Network and ESN, we have thus far focused on longer-term substitutability. We note that in the short run, and in particular prior to the development of ESN, there is no scope for demand-side substitution between the Airwave Network and ESN: a customer that is negotiating with Airwave Solutions cannot realistically seek to get a better deal by threatening to walk away from negotiations and switch to ESN, because ESN is unavailable now as an option. Accordingly, while market definition would often take account of short run competition, in this case our focus on longer-term substitutability is appropriate. We take the lack of short-run substitutability into account in our competitive assessment where it is relevant (see section 4 of this report).

Ancillary products and services

- 3.82 There is a variety of ancillary products and services which Airwave Solutions provides in addition to access to the core network itself. These include radio terminals, control rooms, training, the provision and installation of equipment within vehicles, interworking services and access to its testing facility.

Our assessment

- 3.83 We have considered the extent to which ancillary services are in the same product market as the LMR network, or whether they are a separate product market on the basis of demand-side substitution or, in its absence, supply-side considerations.
- 3.84 The way in which these products and services are provided differs across the blue light services:²³⁷
- (a) The Police Service Contracts are for the provision of the Airwave Network and connectivity to it, its maintenance and associated service levels and a service desk, with the police forces separately contracting for other services. These other services include their own control room services and other additional Airwave products that interact with a third party ICCS. Individual police forces can purchase additional products or services from Airwave

²³⁷ Motorola response to Q3 of the RFI dated 25 October 2021. [3<]

Solutions, including enhanced coverage, support services and control room services. The prices for these are set out in the police menu pricing catalogue at prices which have been agreed with the Home Office.

- (b) Under their contracts, the ambulance services receive a managed service, which provides them with control rooms, air-to-ground, vehicle installation, radio terminals and a service desk (all via Bundle 2, with a number of services provided via subcontractors) in addition to access to the core network (via Bundle 1). Fire and rescue services also receive a managed service including access to the Airwave Network, radios, equipment to connect control rooms to the network and a service desk. The ambulance and fire services can also decide to purchase additional products and services at pre-agreed prices set out within Airwave catalogues.

3.85 On the demand side, many user groups report there being few or no alternatives available for many ancillary services.²³⁸

- (a) The Ambulance Response Programme (ARP) said that ambulance trusts need to procure some discretionary services from Airwave Solutions. The most common of these is the Airwave radio service which forms part of the end-to-end managed service (comprising control rooms, radio terminals and access to the core network) which at present can only be procured through Airwave Solutions.²³⁹
- (b) The National Fire Chiefs Council (NFCC) said that most of the additional products and services which individual fire services procure can only be obtained through Airwave Solutions because of the nature of the Firelink contract and the need for these products and services to directly interface and work on the Airwave Network and with existing Airwave equipment.²⁴⁰
- (c) The Scottish Fire and Rescue service said that under its current managed service provision it is not possible to procure services or equipment other than via the Airwave call off contract.²⁴¹

3.86 As explained in the CMA's Motorola/Airwave Solutions merger control decision in 2016,²⁴² before radio terminals and software can be used on the Airwave Network they must be tested to ensure they will not damage the service received by other users. Airwave Solutions' testing facility is the only facility that can confirm this.

²³⁸ This view was supported by the Home Office which submitted that that while some ancillary services may be subject to competition, the majority of ancillary services purchased by the majority of Airwave Network users can only be purchased from Airwave Solutions. [Home Office's response to the CMA's Provisional Decision Report](#), 22 November 2022, paragraph 2.4.

²³⁹ Ambulance Radio Programme response to Q6 of the RFI dated 17 December 2021. [3<]

²⁴⁰ NFCC response to Q11 of the RFI dated 17 December 2021. [3<]

²⁴¹ Scottish Fire and Rescue response to Q7 of the RFI dated 11 January 2022. [3<]

²⁴² [Motorola/Airwave](#), paragraph 52.

- 3.87 In addition, the Home Office told us that any alternative system (such as ESN) will need to be able to interwork with the Airwave Network to allow for a safe transition to the new network.²⁴³ The customer (in this case the Home Office) is dependent in part on the incumbent supplier (ie Airwave Solutions) on facilitating the development of such a solution through the provision of an interface with the Airwave Network.
- 3.88 Where some users have identified or considered potential substitutes, they report that in practice their ability to switch away from using Airwave Solutions for these ancillary services can be limited by factors including existing contractual provisions and the need for these solutions to technically interface with the Airwave Network:
- (a) The Scottish Ambulance Service reported that the procurement of managed services for ICCS and terminal provision can be competed. However, when it explored removing handheld terminals from its current service bundle, Airwave Solutions only offered a [redacted] % reduction in its service charge, whereas the Scottish Ambulance Service considered that a reduction of at least 50% is more reasonable.²⁴⁴
 - (b) The ARP reported how it has amended the agreement with Airwave Solutions to create competition and a more modular approach for some discretionary services, including the de- and re-installation of radio equipment and the provision of additional control room capacity. However, it needs to pay a fee for accreditation of all services that use the Airwave Network.²⁴⁵
- 3.89 In contrast, several police forces reported there being greater competition for certain ancillary services. For example, the West Midlands Force told us that it only buys services from Airwave Solutions which are offered on the menu services. It procures other products/services directly from the relevant suppliers on a competitive basis, including handheld devices, vehicle radios, ICCS and Airwave support services.²⁴⁶ Police Scotland said that it purchases ancillary equipment through competitive processes directly from the suppliers, including handheld and vehicle devices as well as ICCS systems.²⁴⁷
- 3.90 While some customers report there being greater competition for certain ancillary services, overall the evidence suggests that for many customers it is either difficult, or in some cases not possible, to choose a different provider for ancillary services than for the overall network. This suggests that many customers do not have the option to choose a separate provider for these services. We therefore consider that the competitive conditions for these ancillary services are likely to be

²⁴³ [Home Office response to the Issues Statement](#), 10 January 2022, paragraph 26.

²⁴⁴ Scottish Ambulance response to Q7 of the RFI dated 17 December 2021.

²⁴⁵ Ambulance Radio Programme response to Q6 of the RFI dated 17 December 2021. [redacted]

²⁴⁶ Police consolidated response to Q8 of the RFI dated 13 January 2022. [redacted]

²⁴⁷ Police Scotland response to the CMA's working papers, 16 May 2022. [redacted]

similar as those for the overall network services. On this basis our view is that ancillary services should be included as part of the relevant market.

Geographic market definition

- 3.91 As noted above, our terms of reference concern the supply of LMR network services (including all ancillary services) for public safety in Great Britain.
- 3.92 In addition, we understand that LMR services (including all ancillary services) are typically acquired and supplied to the whole of Great Britain. A key reason for this is to ensure that emergency services operating across different parts of the country can communicate with each other.
- 3.93 Therefore, for the purposes of this investigation, we conclude that the scope of the geographic market is Great Britain.

Conclusions on market definition

- 3.94 Our view is therefore that the relevant market is the supply of communications network services for public safety and ancillary services in Great Britain. We refer to it in this report as the market for 'the supply of communications network services for public safety'.

4. COMPETITIVE ASSESSMENT (1): MARKET FEATURES AND THE AIRWAVE NETWORK

Competitive effects – introduction and summary

- 4.1 In this section of the report we set out our assessment of whether there are features of the market for the supply of communications network services for public safety which prevent, restrict or distort competition. Our assessment, which is supported by the material in Appendices B, C, D and E in particular, focuses on whether there are features relating to the supply of the Airwave Network and services. In section 5 we consider whether there are also features relating to ESN and the transition of users between networks that distort competition.
- 4.2 The conclusion we draw is that, in a well-functioning market, we would expect arrangements to be in place at, or close to, the end of the original period of the PFI Agreement either to replace the Airwave Network with a competitively priced new and enhanced service, or to secure a competitively priced continuation of the operation of the existing network. Our assessment is that this has not happened because: (i) the Home Office did not, and does not, have the alternative options that would have enabled such replacement or competitively priced continuation to occur; and (ii) other factors, such as the transfer of the Airwave Network assets to the Home Office or timely delivery of a competitively tendered replacement network (ESN), did not materialise.
- 4.3 Instead, now the original period of the PFI Agreement is over, the price is set (or maintained without significant variation from previous levels) in negotiations between the parties: an incumbent monopolist and a captive buyer. The Home Office is dependent on the Airwave Network and has no credible options²⁴⁸ that would constrain the price of the Airwave Network services to the competitive level. Airwave Solutions / Motorola has unilateral market power. The price will apply for a significant future period – until at least 2026, likely until 2029 and possibly longer – without being subject to competitive pressure that would reduce it to the level we would expect in a well-functioning market. Our profitability analysis (set out in Section 6 of this report) indicates the price is very substantially above the competitive level.
- 4.4 We have found that the following features of the market²⁴⁹ give Airwave Solutions / Motorola market power and distort competition:

²⁴⁸ We use the term ‘credible options’ to refer to options which the Home Office would be in a position in practice to pursue or threaten to pursue, and/or which Motorola would regard as a threat to its ability to set prices, such that the price is likely to be constrained to the competitive level.

²⁴⁹ Described more fully in Section 7 of this report.

- (a) The Airwave Network is a critical piece of infrastructure on which the emergency services in Great Britain, and ultimately lives, depend.
- (b) The Airwave Network is the only network of its kind in Great Britain and is provided by a monopolist. No other such networks exist nor are they likely to be constructed and ready for use before ESN (or another replacement network) is able to replace it.
- (c) The Airwave Network assets have not transferred to the Home Office under the terms of the PFI Agreement, Airwave Solutions still owns them (and the related business) and the transfer of those assets to the Home Office and their retendering is not a credible option that the Home Office could either pursue or threaten to pursue.
- (d) The Home Office has tendered and contracted for a replacement network – ESN – but it is taking much longer than anticipated to deliver and replace the Airwave Network. ESN will not be ready until at least 2026, likely 2029 and possibly later.
- (e) The Home Office and the emergency services in Great Britain are locked-in with the incumbent supplier of communications network services – Airwave Solutions (and Motorola) – beyond the period over which prices were, or should have been, constrained by the terms of the PFI Agreement (and Airwave Solutions should have recouped its investment and had the chance to earn a reasonable return).
- (f) The Home Office has very weak bargaining power.
- (g) There is asymmetry of information between the parties.
- (h) There is a lack of effective constraints provided by the terms of the PFI Agreement on the price of the provision of the network after 2019, including the benchmarking provisions which are likely to be ineffective.

Structure of this section

- 4.5 We first summarise the assessment we made in our provisional findings. We then consider the responses we received to the PDR and set out our final analysis and conclusions on each of: the CMA's 2016 merger assessment when Motorola acquired Airwave Solutions; the well-functioning market we use as the benchmark against which to assess the present market situation; our assessment of how the market has developed since the PFI Agreement was entered into; and how the Home Office's options and other competitive constraints diminished over time or did not materialise, resulting in the features of the market that prevent, restrict or distort competition and give Airwave Solutions / Motorola market power.

Our provisional findings

Our overall provisional conclusion

- 4.6 In paragraph 4.2 of the PDR we provisionally concluded that, in a well-functioning market, we would expect new arrangements to be in place at, or close to, the end of the original period of the PFI Agreement either to replace the Airwave Network with a competitively priced new and enhanced service or to secure a competitively priced continuation of the operation of the existing network. Our provisional assessment was that this has not happened because the Home Office lacked, and lacks, the alternative options that would have enabled that replacement to occur, and because other factors, such as the timely delivery of a competitively tendered replacement network (ESN), did not materialise. We set out in paragraph 4.3 of the PDR the features of the market that we provisionally found give Airwave Solutions / Motorola market power and distort competition.
- 4.7 We based our overall provisional conclusion on our assessment of each of the following matters.

The well-functioning market

- 4.8 Our provisional view, as set out in paragraphs 4.5 – 4.12 of the PDR, was that a well-functioning market for the supply of communications network services for public safety would be one in which, from around 2020, there would be effective competitive interactions between the Home Office and a supplier of communications network services for public safety. These interactions would give the Home Office alternative options and allow it to choose (or threaten to choose) a different supplier and effectively discipline any supplier that did not offer competitive prices or terms.
- 4.9 We said that, for example, a well-functioning market might be one where:
- (a) At the end of the original period of the PFI Agreement, the Home Office would be able to (re)tender for the provision of LMR network services for public safety using the infrastructure that had already been built and paid for and where sufficient effective competitors would participate in such a tender to produce a competitive outcome; or alternatively,
 - (b) the Home Office would have successfully tendered amongst competing bidders for the delivery of a new and enhanced replacement network which was in position to replace the existing network when the period of the PFI Agreement ended, and the process to choose that network involved sufficient competing alternatives and resulted in competitive prices for that new network.

In these cases, the process of competition would be expected to lead to the Home Office paying competitive prices for the network and services after the original period of the PFI Agreement.

Factors affecting competition for the market

- 4.10 In our PDR we assessed the market developments after the PFI Agreement was entered into, to identify the factors that have led to the current market situation.
- 4.11 In particular, we examined the effect of the PFI Agreement's exit and asset transfer provisions, the Home Office's decision to procure ESN in 2014/2015 in order to replace the Airwave Network in 2020 and the negotiations that took place between the Home Office and Motorola when Motorola acquired Airwave Solutions in 2016.
- 4.12 We also considered: (i) the consequences for competition of the delays in the implementation of ESN, particularly between 2016 and 2021; (ii) the extent of any competitive pressure in the negotiations between the Home Office and Airwave Solutions / Motorola in 2018 and 2021 regarding the extensions of the various Airwave contracts beyond the original period of the PFI Agreement; and (iii) the implications of [redacted] the Airwave Network.²⁵⁰
- 4.13 Our provisional assessment was that we could identify two distinct overall periods in the life of the Airwave Network:
- (a) that covered by the original period of the PFI Agreement until 2019/20, in which, for the reasons summarised in paragraph 4.18 of the PDR, the market was at least in principle operating as we might expect in a well-functioning market; and
 - (b) that from 2020 after the original period of that agreement ended, in which, as described in paragraph 4.19 of the PDR, the constraints we would expect to apply in a well-functioning market do not operate, Airwave Solutions / Motorola has market power and the competitive process is distorted.
- 4.14 We observed that the price of Airwave Network services had not changed as we might expect in a competitive market when the original period of the PFI Agreement ended. Airwave Solutions continues to charge substantially the same price.
- 4.15 We also included in the PDR our provisional assessment of an [redacted]. Our provisional view was that the [redacted] did not indicate that Airwave Solutions / Motorola

²⁵⁰ We took account of submissions Motorola and the Home Office had previously made to us about their bargaining positions in the 2016, 2018 and 2021 negotiations, as summarised in paragraphs 4.92 and 4.120–4.122 of the [PDR](#) in particular.

lacks market power or that the Home Office has countervailing buyer power. We noted that, even [X] the price would be set substantially above the price we might expect in a competitive market. The Home Office did not have options liable to constrain the price to the competitive level.

- 4.16 The final part of our provisional assessment concerned the price benchmarking provisions in the PFI Agreement and the service contracts. Our provisional assessment,²⁵¹ set out in paragraphs 4.197 and 4.213 of the PDR, was that there are weaknesses in the benchmarking provisions and they are unlikely to be effective in constraining prices, either through the benchmarking process itself or as a lever that can be employed in negotiations between the parties.

Responses to the PDR

- 4.17 The Home Office made limited submissions on our provisional competition assessment. It agreed with the provisional conclusions on what would be expected in a well-functioning market, the provisional AEC finding and the provisional assessment of the features giving rise to it.²⁵²
- 4.18 Motorola made more extensive submissions, key points of which we summarise here as follows:
- (a) The CMA 'should stand behind its prior analysis of the Airwave network and ESN undertaken in 2016' when it assessed Motorola's merger with Airwave Solutions. 'There should,' Motorola said, 'be no greater assurance offered to a company than that afforded by merger control clearance...', and, 'The CMA's merger control clearance provided the most robust assurance that no competition issues arise from Motorola's ownership of Airwave or from the contracts that were reviewed by the CMA, including the 2016 amendments to the PFI Agreement.'²⁵³

²⁵¹ We took account of submissions Motorola and the Home Office had previously made to us, as set out in paragraphs 4.198–4.201 of the [PDR](#), and the evidence of the limited effectiveness of the benchmarking provisions as a price constraint and a source of leverage for the Home Office in negotiations, as described in paragraphs 4.202–4.212 of the [PDR](#).

²⁵² [Home Office response to the CMA's Provisional Decision Report](#), 22 November 2022, paragraphs 1.4–1.6 and 2.5.

²⁵³ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraphs 1.4 and 2.22 (and 2.23–2.28).

- (b) Competition in relation to the relevant network services takes place ‘for the market.’²⁵⁴ There was competition for the market in 2000 (resulting in the PFI Agreement)²⁵⁵ and 2015 (the procurement of ESN).²⁵⁶
- (c) Once that competition for the market occurred, all that happened was an amendment to the existing PFI Agreement so that Airwave continued as a back-up (if necessary) after 2019 and until ESN is ready.²⁵⁷ In 2016, ‘at the point of maximum leverage’ (since Motorola required consent for the acquisition of Airwave Solutions), the Home Office freely agreed the terms of any extended operation of the Airwave Network (the back-up terms). It chose an open-ended fixed-price arrangement, as opposed to a fixed term agreement.²⁵⁸
- (d) The setting of those freely agreed terms was not a competitive interaction and, as there was no competition in setting them, there can be no failure of competition. The CMA cannot therefore use a market investigation to intervene in relation to the Airwave contract. Its agreed terms must be respected.²⁵⁹ Motorola also said:
 - (i) ‘Current competitive conditions in the market were set in 2000’²⁶⁰
 - (ii) ‘Bilateral discussions between two parties after they are “locked in” (i.e. after competition for the market has, or could have, taken place) have absolutely nothing to do with competition or market assessments...’;²⁶¹ and
 - (iii) ‘The simple point, which Motorola has made since the outset of the CMA’s intervention, is that once the parties have signed up to a contract, their interaction does not constitute a ‘market’, well-functioning or otherwise.’²⁶² The parties have, Motorola said, ‘taken themselves out of the market.’²⁶³

²⁵⁴ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraphs 1.5 and 3.1.

²⁵⁵ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraphs 1.11 and Motorola Response hearing with the CMA on 10 January 2023. [3<]

²⁵⁶ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraphs 4.6 and 5.1, and Motorola Response hearing with the CMA on 10 January 2023. [3<]

²⁵⁷ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraphs 3.12 and 3.30–3.33.

²⁵⁸ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraphs 1.18–1.22, 2.5–2.10, 2.31 and 3.30–3.33.

²⁵⁹ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraphs 1.18–1.22, 2.5–2.10, 3.7, 3.20–3.22 and 4.2. See also Motorola Response hearing with the CMA, 10 January 2023 [3<] and Motorola’s letter of 2 March 2023 to the CMA, [3<]

²⁶⁰ Motorola Response hearing with the CMA, 10 January 2023. [3<]

²⁶¹ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraph 4.12.

²⁶² [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraph 4.14.

²⁶³ Motorola Response hearing with the CMA on 10 January 2023. [3<]

- (e) The Home Office was aware in 2016 that ESN might be delayed. However, even if it had unmet expectations that is not a failure of competition.²⁶⁴
- (f) 'By artificially splitting the PFI Agreement into 2000 to 2019, and 2020 to 2026, the CMA deprives itself of the opportunity to assess the PFI Agreement in the correct manner...', and, 'There is no rational basis to create such an artificial split since:
 - (a) in substance, the PFI Agreement has operated as a single contract, with a start date of 2000 and an end date now of 2026;
 - (b) the PFI Agreement never had a fixed end date of December 2019;
 - (c) in 2016 the PFI Agreement was specifically amended to avoid any possibility of that agreement ending in 2019 unless the Home Office decided otherwise;
 - (d) the CMA seems to take the view that the pricing that resulted from the 2016 negotiations would be fine until 2019 but not thereafter, even though the parties agreed something different, which makes no sense;
 - (e) the only relevance of 2019 is that ESN was supposed to be ready. It has no relevance for the Airwave contract, given what the parties agreed; and
 - (f) according to the economic data that the CMA does not challenge, the Home Office has had a substantially better bargain than the one agreed to in 2000 over the entire period from 2000 to 2026 (the actual project IRR fell far short of the anticipated level, which the Home Office had been willing to agree in 2000).'²⁶⁵
- (g) It is irrational and unfair to treat the retendering of the Airwave Network in 2019 / 2020 as the counterfactual of the well-functioning market. The Home Office made choices (procuring ESN in 2014 / 2015) that removed that possibility.²⁶⁶ Such a description of the well-functioning market is 'obviously untenable', 'pure fantasy' and '... does not satisfy the obvious requirement that the counter-factual should be a realistic one.'²⁶⁷
- (h) The asset transfer provisions in the PFI Agreement are an irrelevant consideration. Motorola said that the CMA asserts that, had those provisions

²⁶⁴ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraphs 3.36 - 3.39.

²⁶⁵ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraphs 2.19 and 2.20.

²⁶⁶ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraphs 3.9–3.13.

²⁶⁷ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraphs 4.5–4.9.

been drafted differently or were more effective, the Home Office could have acquired the Airwave Network and ESN would never have been procured. However, the Home Office had no interest in acquiring the network in 2016 and was completely focused on ESN, which it pursued for reasons including the desire to replace the Airwave Network with a new network offering enhanced functions.²⁶⁸

- (i) There is, nonetheless, no uncertainty today that would prevent the Home Office from exercising its option to acquire the transferable Airwave Network assets (for example, on expiry of the PFI Agreement in December 2026).²⁶⁹ Motorola also said that the asset transfer provisions ‘... were simple, were effective and could have been applied ... at any time by the Home Office....,’ and that the Home Office had the option to acquire the Airwave Network assets, and could have done so, in 2019 and still can.²⁷⁰
- (j) Motorola also said in connection with the possible transfer of the Airwave Network assets after 2019 that:

... the Home Office evidence ... makes clear however, the Home Office was not seeking a long-term solution after 2019 which might involve competition for the market or the use of the asset transfer provisions to bring Airwave into the Home Office. Instead, the Home Office was seeking only short extensions and against this commercial objective the subject of asset transfer was irrelevant to the Home Office since it would make no sense to take over the assets for such a short period. Had the Home Office made (or would now make) a different contractual choice, the asset transfer provisions were (and are) available and effective. The CMA is not entitled to deduce from the Home Office preference not to organise a competitive tender that a competition problem exists. Any problem of an absence of competition is caused solely by the Home Office refusal to invite bids.²⁷¹

- (k) Additionally on the same issue Motorola noted that ownership of the Airwave Network assets has transferred three times with no impact on the operation of the network. The most recent transfer was in 2016, when Motorola acquired Airwave Solutions. At that time, the contract to provide the network services only had a minimum period of four years to run. Any notion that future dependency on Motorola precludes an asset transfer was, it said,

²⁶⁸ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraphs 3.23–3.29.

²⁶⁹ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 3.40.

²⁷⁰ Motorola Response hearing with the CMA on 10 January 2023. [§<]

²⁷¹ Motorola letter to the CMA, dated 2 March 2023. [§<]. Motorola also said in [§<] the same letter that, ‘... the contemporaneous evidence makes clear that the Home Office never exhibited any real effort or even desire to apply [the asset transfer provisions].’

‘without foundation,’ and there are no technical or operational reasons that present obstacles to such a transfer.²⁷²

- (l) The CMA has misunderstood the importance of the price benchmarking provisions in assessing the bargain struck by the parties and the power of the Home Office to constrain pricing within the contractual framework. They provide for a neutral evaluation of charges payable under the contract. The Home Office successfully invoked them to challenge the value of the charges – in that Motorola agreed to settle that dispute with payments that amounted, in substance, to a price discount. The parties attribute value and significance to the benchmarking provisions because on two occasions bargains have been struck in which the Home Office has agreed to suspend use of the provisions in return for concessions from Motorola, including a price reduction.²⁷³
- (m) The CMA should be investigating the failure of the Home Office's procurement of ESN. That procurement is the most recent instance of competition for the market. Its failure to deliver a working solution in time or with reasonably short delay should be at the heart of the CMA's investigation. If the CMA wishes to ensure that such future competition for the market succeeds in creating a competitively priced and working replacement network, it should examine why the ESN procurement has failed to do so.²⁷⁴

4.19 Motorola also made submissions on other specific points. We describe these in our analysis below.

Our analysis and conclusions

The CMA's 2016 merger assessment

4.20 We have considered Motorola's submissions about the CMA's clearance of the merger between it and Airwave Solutions in 2016. We also asked Motorola to explain further how: (i) it considered that the merger clearance decision is relevant to this market investigation; and (ii) the clearance of the merger prevents any further investigation of competition matters in this investigation. We drew attention to:

- (a) the provisions of sections 22 and 134 of the Act relating to mergers and market investigations, respectively;

²⁷² Motorola letter to the CMA, dated 2 March 2023. [3<]

²⁷³ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 2.17.

²⁷⁴ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 2.35 and 5.4–5.5. See also Motorola Response hearing with the CMA on 10 January 2023. [3<]

- (b) the paragraphs of the CMA's merger clearance decision²⁷⁵ referring to the nature and scope of the CMA's merger assessment in 2016 and referring to the expected lifespan of the Airwave Network and its effect on the CMA's decision at that time; and
- (c) the submissions Motorola made in 2016 about the expected cessation of the Airwave Network at the end of 2019.²⁷⁶

4.21 In response Motorola said:

The relevance of the CMA's merger clearance is obvious. In 2016 the parties agreed, in a long-term fixed price contract furnished to the CMA, the terms of which the CMA now considers to be an indication of the market not functioning well. The CMA could have intervened ... but it correctly found no basis to do so. In substance, all the CMA is doing in 2023 is going back in time and deciding that, contrary to what the parties freely agreed and contrary to the CMA's findings in its 2016 merger assessment, the price should (assuming perfect foresight at the time) instead have reduced from 2020.²⁷⁷

4.22 We consider Motorola's submissions about the 2016 merger assessment to be without merit.

4.23 The merger assessment was made under the statutory provisions that apply to completed mergers at phase 1. Those required a consideration only of whether the merger of the two companies would result in the realistic prospect of a substantial lessening of competition in the relevant markets based on the evidence available to the CMA at the time. That included evidence (some, significantly, from Motorola) that ESN would likely replace the Airwave Network in 2019/20, or at least shortly thereafter (ie without multi-year delays). As in all merger cases, the assessment was forward-looking one that can be re-considered as the market develops.

4.24 The competition assessment in a market investigation in 2022 and 2023 is materially different to that in a merger. It involves a much broader question, under a different statutory framework and following a different statutory process, of whether there are now features of the market giving rise to an AEC, based on the evidence currently available. The merger assessment does not, and cannot, preclude that assessment.

²⁷⁵ CMA Airwave Merger clearance decision, July 2016, [Motorola/Airwave full text decision \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/motorola-airwave-merger-clearance-decision)

²⁷⁶ See further below in paragraph 4.122.

²⁷⁷ Motorola's RFI response dated 27 January 2023.

The well-functioning market

- 4.25 The Act requires that, in identifying an AEC, we must assess whether ‘features’ of the market distort competition. It does not specify a theoretical benchmark against which to measure an AEC, but our Guidelines provide broad principles derived from Competition Commission and CMA past practices.
- 4.26 The Guidelines say (in paragraph 320) that ‘In the absence of a statutory benchmark, the [CMA] defines such a benchmark as ‘a well-functioning market’ (see paragraph 30) — ie one that displays the beneficial aspects of competition as set out in paragraphs 10 to 12 but not an idealized perfectly competitive market.’ Paragraphs 10 to 12 of the Guidelines describe competitive processes that lead to competitive outcomes.²⁷⁸ The benchmark ‘will generally be the market envisioned without the features causing the AEC.’²⁷⁹
- 4.27 To assist us in assessing the extent and effectiveness of competition in this case, we have considered a well-functioning market for the supply of communications network services for public safety. That is, one where competition is efficacious having regard to the nature of the product and the circumstances in which it is supplied.
- 4.28 Our view is that, in a well-functioning market, with effect from around 2020 there would be effective competitive interactions or processes between the Home Office and a supplier of communications network services for public safety. These competitive interactions or processes would give the Home Office alternative options and allow it to choose, or threaten to choose, a different supplier and effectively discipline any supplier that did not offer competitive prices or terms. Such a market would generate prices, profits and quality of service that were at competitive levels.
- 4.29 For example, a well-functioning market might be one where:
- (a) at the end of the original period of the PFI Agreement, the Home Office would be able to (re)tender, or credibly threaten to (re)tender, for the provision of LMR network services for public safety using the infrastructure that had already been built and paid for and where sufficient effective competitors would participate in such a tender to produce a competitive outcome; or alternatively,

²⁷⁸ The process of rivalry as firms seek to win customers’ business, with firms having incentives to meet the existing and future needs of customers as effectively and efficiently as possible – by cutting prices, increasing output, improving quality or variety, or introducing new and better products.

²⁷⁹ ‘.... but there can also be reasons to depart from that general concept, for example, if features are intrinsic to the market but nevertheless have anticompetitive effects (as in the case of a natural monopoly) or if the nature of competition in the market is defined by arrangements put in place by Government.’ [Guidelines](#), paragraph 30.

- (b) the Home Office successfully tendered amongst competing bidders for the delivery of a new and enhanced replacement network which was ready to replace the existing network when the period of the PFI Agreement ended, and the process to choose that network involved sufficient competing alternatives and resulted in competitive prices for that network.
- 4.30 In these cases, the process of competition would be expected to lead to the Home Office paying competitive prices for the network and services in the period after the original period of the PFI Agreement. We observe that they are both plausible possibilities in a market like the one under consideration. The first is what the terms of the PFI Agreement sought to facilitate. The second is what the Home Office sought to achieve in procuring ESN in 2014/2015.
- 4.31 Put another way, in a market like this one, where there is a network that will be operated by a single provider (a natural monopoly), we might expect competitive terms and prices to be set for fixed periods by competition (through tenders) for the market from time to time:
- (a) the terms and price for the period between 2000 and 2019 being set in the tendering process that led to the making of the PFI Agreement; and
 - (b) the terms and price for the period from 2019/20 onwards being set in a further tendering process (such as, in this case, that for ESN) or in response to the credible threat of such a process.
- 4.32 That, it appears to us, is what was intended to happen. We agree with Motorola that, in deciding how it wanted the market to operate from 2019/20, the Home Office chose the second of those possibilities (in procuring ESN). Nonetheless, our description of the well-functioning market is a plausible analytical benchmark against which to compare the process in which the terms for the continued operation of the network (or a replacement network) after 2019/20 are set (or maintained). That is, whether they are subject to the same sorts of competitive constraints and pressures we would expect if the market was working well one way or another. That exercise enables us to identify if there are features that are preventing, restricting or distorting competition.
- 4.33 We have taken into account Motorola's submissions that this approach to the well-functioning market is unrealistic and irrational. Specifically, its view that the fact the Home Office intended to have a new network in place by 2019/20 means we cannot consider a hypothetical situation where there was: (i) a successful retendering of the existing assets (or a credible threat of doing so); or (ii) a tender for a new system, as a measure of what might happen in a well-functioning market.
- 4.34 In our view, Motorola's submission conflates what actually happened in the circumstances we are investigating with the test of what might have happened if

the market was working well. It is inherent to any market investigation that, where there is a possibility of an AEC finding, there may be features that prevent the market working well. This is what we are seeking to test. If, in defining a well-functioning market, we were required to only take into account what actually happened (as opposed to what might have happened in the absence of any features that might distort competition) this would remove the purpose of a well-functioning market benchmark.

- 4.35 The conclusion we go on to reach, applying our approach to the well-functioning market, is that the processes we would expect to apply to ensure competitive terms and prices from the end of the original period of the PFI Agreement²⁸⁰ did not occur. The retendering of the existing assets did not happen and the Home Office was and is not in a position credibly to threaten that. The replacement network (ESN) was tendered for but not ready in time.²⁸¹ Instead, the terms and price were and are set (or maintained) in negotiations between Airwave Solutions / Motorola and the Home Office, in which the competitive constraints we would expect in a well-functioning market have not applied and do not apply.

Our approach

- 4.36 To reach our conclusions, we have assessed the market developments after the PFI Agreement was entered into, to identify the factors that have led to the current situation. The following subsections of our decision therefore consider:
- (a) issues arising in the period up to 2016 that affected competition for the market, including the uncertainty arising from, and the ineffectiveness of, the PFI Agreement's asset transfer provisions, the Home Office's decision to procure ESN in 2014/15 to replace the Airwave Network in 2020 and the negotiations that took place between the Home Office and Motorola when the latter acquired Airwave Solutions in 2016;
 - (b) the consequences of the delays in the implementation of ESN for competition, particularly in the period between 2016 and 2021; and
 - (c) the extent of any competitive pressure that may have existed in the negotiations that have taken place between the Home Office and Airwave Solutions / Motorola in 2018 and 2021 regarding the extensions of the various Airwave contracts beyond the original period of the PFI Agreement.²⁸²

²⁸⁰ Whether the retendering of the existing network assets (or the threat of doing so), or the tendering of a new network ready to replace the old one.

²⁸¹ But the expectation there would be a new replacement network reduced the credibility of retendering the existing assets in the limited time available before the new network would be operational.

²⁸² As well as the implications for the competitive position of [X] the Airwave Network.

- 4.37 We also consider, in the subsection on benchmarking, whether the benchmarking provisions in the PFI Agreement and relevant service contracts are effective to constrain the price and address any competition concerns that may otherwise arise.
- 4.38 The view we come to is that, over time as the market has developed, the Home Office's options and factors that in a well-functioning market would have acted as competitive constraints on the price of provision of the Airwave Network or secured its replacement by a competitively procured alternative have diminished (or did not materialise). In relation to the period from 2020, after the original period of the PFI Agreement, the Home Office neither has the options that we might expect in a well-functioning market nor are there other constraints on prices and profits that we might expect to apply.
- 4.39 In particular, and as we go on to explain in the following sub-sections:
- (a) The Home Office had the opportunity to run an open competition for a supplier of the network in the original procurement exercise that led to the PFI Agreement. The terms of the agreement sought to provide for the transfer of network assets to the Home Office, that might in turn have led to their retendering, when the original period of that agreement ended. However, those terms have given rise to uncertainty and have not been effective, and the transfer of the Airwave Network assets and their retendering was not, and is not, in the relevant circumstances, a credible option or threat for the Home Office.
 - (b) In 2014/15, the Home Office procured ESN to replace the Airwave Network in 2020, but the time for that replacement subsequently became much longer.
 - (c) In 2016, when the parties agreed the HoTs and DoR, the Home Office expected that it would only require access to the Airwave Network until ESN was ready to replace it in or around 2020. Its bargaining power with regard to consenting to Motorola's acquisition of Airwave Solutions was limited by its concerns about Macquarie's continued ownership of Airwave Solutions. Its ongoing dependence on the Airwave Network, which remained in Airwave Solutions' ownership, and the possible unlawfulness of longer-term extensions of the PFI Agreement also limited its options, and therefore its bargaining power, in respect of the terms of the Airwave contracts post-2019. As a result, the terms agreed in 2016 reflected the Home Office's limited bargaining power and became the default contract price against which future negotiations took place.
 - (d) In the subsequent negotiations, the Home Office was negotiating against the default option agreed in 2016 of extending the operation of the Airwave

Network at previously contracted prices and on previously agreed terms.²⁸³ The Home Office had weak bargaining power because the asset transfer provisions in the PFI Agreement had not resulted in the transfer of network assets and Airwave Solutions still owned them, the transfer of the assets was not a credible option (or threat) for the Home Office, ESN had not been delivered, and the Home Office's dependence on the Airwave Network meant it was locked in to Airwave Solutions.

The Airwave Network up to and after 2019/20

4.40 We can, in our view, identify two distinct periods in the life of the Airwave Network:

- (a) that covered by the original period of the PFI Agreement until 2019/20; and
- (b) that from 2020 after the original period of that agreement ended.

4.41 In the former period, the Airwave Network was set up via the type of process – a tendering exercise in which competing bids were invited – that we might expect in a well-functioning market. The bid to supply the network and services over the original period accounted for the supplier's expected investment costs and the price of the services was subject to the constraints imposed by the tendering process and to the terms of the PFI Agreement (which provided, for example, for a fixed period of the contract, without provisions for its extension).

4.42 In the latter period, if the market was a well-functioning one, we would expect the existing arrangements to be replaced by new arrangements made in a further competitive process. However, this has not happened. Our view is that the constraints we would expect to apply in a well-functioning market do not operate, Airwave Solutions / Motorola has market power and the competitive process is distorted.

4.43 We observe that, despite the end of the original period of the PFI Agreement, the terms of supply of the Airwave Network, especially the price, have not changed as would be expected in a competitive market. We would expect the price to be much lower, to reflect that the original bid to supply the network and services over the original period would have accounted for the supplier's expected investment costs. Airwave Solutions, however, has continued, and continues, to charge substantially the same price in the later period. Doing so, our profitability assessment in section 6 of this report indicates, generates supernormal profits.²⁸⁴

²⁸³ Which had been negotiated at a time when Airwave Solutions had been seeking prices that would adequately cover the significant investment costs associated with setting up the network.

²⁸⁴ This remains the case even though Motorola has recently made an offer to the Home Office to reduce the price in what it suggested to the Home Office should be part of a joint approach to us. The Home Office has not accepted that offer. Even if it had, the price would, as we assess in this report, not have reduced as we

- 4.44 The subsequent subsections of this part of our report explain our assessment of how the current position has arisen, and the implications for competition. We start by considering issues arising particularly in the period up to 2016 that have affected (and affect) the nature of competition for the market.

Factors affecting competition for the market

- 4.45 In section 2 and in Appendices B and C of this report we describe the procurement processes that led to the award of the PFI Agreement in 2000, the award of the ambulance and fire contracts in 2005 and 2006 respectively and the ESN contracts in 2014/15. We comment on the competitiveness of such processes to the extent relevant elsewhere in this report (see section 3, for example). Here, we focus on the circumstances that led to the decision by the government to seek to replace the Airwave Network with ESN (before we assess the consequences of that decision). Our analysis is supported by the material in parts 1 and 2 of Appendix E.
- 4.46 We adopt that focus for two reasons:
- (a) first, because the original procurement resulted in arrangements for the provision of the Airwave Network (the PFI Agreement) for a period ending in 2019/20, and not for the continued operation of those arrangements after that period (ie the present).
 - (b) second, because the decision to replace the Airwave Network with ESN related to, and affected the possibility of, replacing the original PFI arrangements with a competitively priced alternative in 2020. It also affected decisions the Home Office made subsequently and the development of the market (especially when, later, the delivery of ESN took longer than anticipated – which we go on to consider further below). It is therefore important in understanding the present market situation.
- 4.47 On the first of those points, we have considered Motorola's submission that we are artificially splitting the PFI Agreement into two periods (2000–2019 and 2020–2026). Our judgement is that doing so is appropriate.
- 4.48 As explained in section 2, given the nature of the product and services and the decisions made in the run up to, and in, 2000 (and subsequent years) regarding the best way to meet users' needs, LMR network services for public safety in Great Britain are currently provided by a single provider under a long-term contract (together with accompanying long-term service contracts). We observe in section

might expect in a competitive market. It would remain very substantially higher than the competitive level. And, for the reasons we explain in this section of this report, we find that the offer, and the Home Office's non-acceptance, are consistent with Airwave Solutions / Motorola having market power and the Home Office lacking countervailing buyer power.

3 that the Home Office had the opportunity to run an open competition to supply the network and it sought to do so in the original procurement process.

- 4.49 That is, the Home Office invited bids to build and operate the network for a fixed period only. In those circumstances, any winning supplier would reasonably be expected to set the price, in competition with any other bidders, so as to recover its anticipated costs and give it the chance to earn a reasonable return over that period. The resulting PFI Agreement was for a specified period, without provision for extension, and contained terms which sought to facilitate the transfer of network assets to the Home Office at the end of that period.
- 4.50 In other words, the original procurement exercise and resulting PFI Agreement sought to put in place arrangements to cover the period from 2000 to 2019/20, where the price for that period was constrained by the tendering process that led to those arrangements. In our view, that is distinct from the period from 2020 onwards in which those arrangements were not set to apply and in which period we would, in a well-functioning market, expect the arrangements to be replaced with a competitively priced alternative.
- 4.51 Our analysis is therefore not concerned with the price Airwave Solutions charged and the profits it generated in the original period of the PFI Agreement. Our focus is on the way the market developed after the original procurement and the making of the PFI Agreement, and on whether the price Airwave Solutions charges and the profits it generates are subject to effective competitive constraints in the later period from 2020.
- 4.52 As to the second point, about the Home Office's decision to replace the Airwave Network with ESN, we note that, while it is expected that the underlying technology used for the Airwave Network – LMR technology – will be replaced by LTE-based solutions, it is for now the de facto technology for communications networks for public safety across the world. There are still countries putting in place LMR systems (see section 2 of this report).
- 4.53 In 2013 when the decision was made to switch from this technology altogether in Great Britain,²⁸⁵ the assets used for the Airwave Network were still regarded as 'relatively new' and to 'have an expected working life until at least 2020+'.²⁸⁶ We also understand that Macquarie had sought to negotiate an extension of the operation of the network to 2035, in return for a discount, in discussions with the Cabinet Office in 2010.²⁸⁷ According to Motorola's internal documents, subject to some additional investment to refresh elements of the network, the Airwave

²⁸⁵ As part of the Strategic Outline Business Case prepared by the Home Office following engagement with stakeholders and industry participants (see Section 2).

²⁸⁶ Technical due diligence report. [3<]

²⁸⁷ Home office internal email, 26 October 2016. [3<]

Network may still be capable of meeting the needs of customers for voice communication until around [REDACTED], if not later.²⁸⁸

- 4.54 Given these points about the currency and lifetime of LMR networks, and the cost of putting in place such infrastructure and its critical nature, one way an effective competitive process could have operated in a well-functioning market might have been for the contract for the provision of services using the existing infrastructure to be contestable from time to time as long as it remained economic to do so (for example, at the end of the PFI Agreement in 2019/20). The terms of the PFI Agreement relating to the transfer of network assets to the Home Office at that point sought to facilitate that possibility. However, this is not how the market has developed.
- 4.55 We have therefore considered the factors and circumstances that led the market to evolve in a different way. In particular, we have considered the operation of the exit and asset transfer clauses in the PFI Agreement, concerns about Airwave Solutions' high levels of debt and the Home Office's choice to tender for a new network offering enhanced functionality. We have then assessed the consequences for the way the market has evolved.
- 4.56 This is important because it helps us to understand:
- (a) How the possibility of securing a competitively priced continuation of the operation of the existing network after 2020 did not materialise (because the network assets continued to be owned by Airwave Solutions / Motorola);
 - (b) the Home Office's decision to procure ESN, its initial anticipation that the new network would be ready to replace the Airwave Network in or around 2020 and the implications of that expectation; and
 - (c) the options open to the Home Office and the choices it made in 2016 when Motorola sought its consent to acquire Airwave Solutions.
- 4.57 Those matters inform our assessment of how certain features of the market developed and how Airwave Solutions / Motorola came to have market power. In particular, that the features of the market that developed included the Home Office's reliance on Airwave Solutions' / Motorola's continued provision of the Airwave Network, which they continue to own, after 2020 and until ESN (or another replacement network) is delivered.

²⁸⁸ Motorola internal document, 16 October 2020. [REDACTED] Motorola made a similar suggestion at the Motorola Response Hearing with the CMA on 10 January 2023. [REDACTED]

PFI Agreement exit clauses and their implementation

- 4.58 In the PDR, our provisional view was that the PFI Agreement's exit and asset transfer provisions were largely ineffective because of: (i) their ambiguous treatment of which of the network assets are transferable; and (ii) their weaknesses in relation to the valuation of those assets. In response, Motorola submitted that it was other reasons, including the Home Office's desire to replace the Airwave Network with a new network offering enhanced functionality, which drove its choice to procure ESN, not the ineffectiveness of the asset transfer provisions (which it says played no role in that decision).²⁸⁹ It also submitted that those provisions are in any event clear and could be used by the Home Office after 2016 to obtain the Airwave Network assets.²⁹⁰
- 4.59 We agree that the Home Office had a range of reasons for deciding to procure ESN to replace the Airwave Network when the original period of the PFI Agreement ended, including the desire for an enhanced network meeting future user requirements. However, there were (and are) uncertainties arising out of the asset transfer provisions, that the Home Office was aware of, which limited their effectiveness in practice. Moreover, these uncertainties continue to limit the effectiveness of the provisions and affect whether asset transfer is an option open to the Home Office that is likely to constrain the price of Airwave Network services to the competitive level, in the context that ESN has not been delivered on time and is not expected to be delivered for some time yet.
- 4.60 In particular, as we describe below and explain further in part 1 of Appendix E, there are uncertainties arising from the provisions relating to transferable and non-transferable network assets and their valuation. In any event, the provisions have not been effective in securing the transfer of the network assets to the Home Office and the assets are still owned by Airwave Solutions. These points played (and continue to play) an important part in reducing the Home Office's options and distorting competition. They mean the Home Office could not, for example, retender the provision of the network and services using the existing infrastructure, nor credibly threaten to do so.²⁹¹ It is reliant on Airwave Solutions for their continued provision.

Transferable and non-transferable assets

- 4.61 As set out in more detail in Appendix C, the PFI Agreement contains service transfer clauses in [§]. Their aim, it appears to us, was to facilitate an effective handover – under a Service Transfer Plan (also specified in Schedule 15) – of the

²⁸⁹ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraphs 3.25 and 3.26.

²⁹⁰ Response hearing held with Motorola, 10 January 2023. [§]

²⁹¹ And, as we describe in paragraphs 4.189–4.211 below, we have also seen no evidence that the threat of exercising those provisions has served to constrain the prices charged to the Home Office.

responsibility for the provision of the network services from Airwave Solutions to the Home Office (or to the individual customers or to a replacement contractor or contractors) on the termination or expiry of the PFI Agreement. The Home Office would then have had the option either to retender the operation of the Airwave Network or to operate the network itself (or it would have been able credibly to threaten to do so in price negotiations).²⁹²

- 4.62 If effective, those clauses, and such an outcome, would be consistent with the nature of PFI agreements, the government guidance on the operation of such agreements in place at the relevant time, the nature of the Airwave Network services, the original fixed period of the PFI Agreement and the notion that the Home Office would have paid for the network investment costs over that period. However, the terms themselves appear to give rise to uncertainties, and the interpretation Airwave Solutions placed on them seems to have differed from the position indicated in relevant government guidance. That interpretation was reflected in the Service Transfer Plan it proposed to the Home Office, which left the network assets in Airwave Solutions' ownership. We explain as follows and in part 1 of Appendix E.

Contractual provisions

- 4.63 The uncertainty arises from the way the provisions define the transferable assets as those which are not part of the supplier's existing networks for supplying other customers and which are capable of transfer to another supplier:
- (a) Both Macquarie, when it owned Airwave Solutions, and later Motorola, took the view that this meant network assets were only transferable if they were used just to provide services to a single customer. Consistent with this interpretation, the draft Service Transfer Plan prepared by Airwave Solutions (see further below) excluded from the list of transferable assets, among other things, [redacted]²⁹³, [redacted]²⁹⁴, [redacted].²⁹⁵

²⁹² With arrangements regarding the funding and responsibility for any future capital expenditure to be decided by the Home Office in light of circumstances at the time.

²⁹³ The right to use [redacted] is specifically identified as non-transferable in the Firelink Project Agreement. In the Ambulance Contract and Scottish Ambulance contract, there is no specific clause as to the right to use [redacted] being identified as a transferable or non-transferable asset

²⁹⁴ We note that Airwave Solutions owns or privately leases around 1,100 strategically-located sites with supporting infrastructure that were rolled out between 2000 and 2005 solely for the purpose of serving the PFI Agreement. These sites were excluded from the [redacted]. Motorola due diligence document, 5 June 2015. [redacted].

²⁹⁵ We note that, despite this interpretation, to the extent that the Airwave Network relies on elements of its previous owner's (BT's) network, that did not prevent the sale of Airwave Solutions to Macquarie. It also appears clear that some of the assets identified by Airwave Solutions [redacted] could not be part of a wider network.

(b) The Home Office offered us a different view of the meaning of the provisions.²⁹⁶ It said that the provisions only sought to make non-transferable assets which were co-employed in the provision of other services to (the original network owner) BT's other customers, over BT's other networks, at that time of the PFI Agreement. Put another way, the Home Office envisaged the provisions resulting in a broader category of assets transferring to it once the Airwave Network was no longer owned by BT.

- 4.64 Relevant government guidance on PFI agreements does not envisage that assets created for the purpose of fulfilling such an agreement (and paid for by the commissioning authority) would be excluded from the transfer of assets when the agreement ends. Broadly, it envisages that 'transferred' assets will change hands at no cost, with 'transferable' ones passing at fair market value (depending on their practical alternative use).
- 4.65 The guidance said that PFI agreements should identify assets 'with no alternative use' and those with a potential alternative use. It said those, '... that have no alternative use are generally those which, in any event, the Authority will want the ability to acquire on the Expiry Date.'²⁹⁷ It also referred to the transfer of assets to the contracting public authority where there is no practical alternative, including where, '... the Assets have a useful economic life if retained by the Authority but there is no realistic alternative use for the Assets, such as prisons.'
- 4.66 The Infrastructure and Projects Authority – the government's centre of expertise for infrastructure and major projects – has told us that in most cases, assets with no alternative use transfer to the customer public authority at zero cost at the end of a PFI agreement. It said that in some earlier PFI agreements, asset transfer was provided for at market value, and in technology projects obsolescence risks made it difficult to assess both the likely value of assets at the end of the contract period and whether the customer would wish to take them on.²⁹⁸ It also told us, '... we are not aware of other projects where the contracting authority does not have a right to the assets (whether automatic transfer, at market value etc) at the end of the contract'.²⁹⁹
- 4.67 It appears to us that the Airwave Network assets are liable to fall into the category of assets which should, according to the PFI guidance, pass to the Home Office as the contracting authority at the end of the PFI Agreement. They are, in our assessment, assets it would want the ability to acquire, if necessary, to continue

²⁹⁶ Home Office submission to the CMA, 10 June 2022. [§<]. The Home Office was unable to provide any supporting documentation due to the passage of time.

²⁹⁷ The Treasury Taskforce Guidance: Standardisation of PFI Contracts (1999), paragraph 19.2.1.

²⁹⁸ Note of call between IPA and CMA, 22 May 2022.

²⁹⁹ Though it also noted that, 'Assets under PFI contracts are typically standalone and not part of a wider network as would be the case with the project you are looking at and that may be a reason for the atypical arrangements'.

the operation of the network, as the terms of the PFI Agreement sought to provide and as might be expected in a well-functioning market in order to secure the ongoing provision of services on competitive terms.

- 4.68 The interpretation Airwave Solutions (since being owned by Macquarie and now by Motorola) has placed on the PFI Agreement's exit and asset transfer provisions, which completely excluded relevant network assets from transferring, accordingly differed from: (i) the Home Office's; (ii) that indicated in the government guidance; and (iii) what might be seen as typical in PFI agreements generally. That led to uncertainty and the potential for dispute as to the assets that could or would transfer to the Home Office at the end of the original period of the PFI Agreement as follows.

Service Transfer Plan

- 4.69 Airwave Solutions' interpretation of the PFI Agreement's exit and asset transfer provisions shaped its development of the content of the Service Transfer Plan (such as one – in incomplete draft form – has been partially developed). Its characterisation of a number of key assets as non-transferable had an important impact on the development of the market. So, too, did the timing with which it developed the plan.
- 4.70 Although it should have been prepared in March 2002, Airwave Solutions did not produce a draft Service Transfer Plan until 2007, which was updated but not finalised between 2012 and 2014 (following repeated Home Office requests since 2007).³⁰⁰ The most recently produced 2014 draft appears to fall short of what was required by the PFI Agreement. For example, in addition to its treatment of transferable assets described above, it does not contain comprehensive proposals for identifying all the employees who are or may be covered by the TUPE Regulations³⁰¹ or for training key members of any alternative service provider's³⁰² personnel, and nor does it specify how the plan would apply at a local level to each individual customer.³⁰³
- 4.71 The Home Office was aware of the shortcomings in the asset transfer provisions and Service Transfer Plan. For example, its Airwave Strategic Business

³⁰⁰ Home Office internal email, 21 May 2015: [redacted]. Home office internal email, 17 June 2016 [redacted]

³⁰¹ Which regulations, very broadly, provide for the transfer of employees where there is a transfer of an undertaking between owners: The Transfer of Undertakings (Protection of Employment) Regulations 2006.

³⁰² To whom assets may be transferred.

³⁰³ Described in Schedule 15 of the PFI Agreement as a 'Model Force Services Transfer Plan, setting out how the Services Transfer Plan would apply when operated at the local level in relation to the expiry or termination of an individual Services Contract.' Emergency Services Airwave Service Transfer / Exit Plan, 8 January 2014, Appendix 6. [redacted]

Contingency Plan (SBCyP) version 3.0 of April 2014³⁰⁴ noted of the provisions that, amongst other things, they had the effect of:

Rendering any prospect of a ‘Termination’ option (and by implication any attempt to take control of the ASL [Airwave Solutions] entity as a going concern) as so difficult to predict in terms of its effectiveness, cost or time to implement as an option, that it would effectively become a “best endeavours” for the Authority – with the likelihood that it could become a very expensive and disruptive response.³⁰⁵

4.72 The draft plan was criticised by the NAO too. In its 2016 report it found that one of the reasons why the government decided to move away from Airwave Solutions was that it had limited leverage over the company and was unable to agree with it a list of assets that it would own once the PFI Agreement and related contracts expired, despite having paid for a number of them in full.³⁰⁶

4.73 It is also significant, in our judgement, that Motorola has taken the same view of the meaning and effect of the asset transfer provisions as Macquarie did, and that the 2014 draft Service Transfer Plan was not updated by Airwave Solutions after it came under Motorola’s ownership in 2016.³⁰⁷ The Home Office made three requests in that connection in 2021, relating to the position of Sharer organisations under the plan. Following those requests, the Home Office understood Motorola’s position to be that:

the Sharers are not included in our contract, it won’t make any difference to the Service Transfer Plan assets list if they move to ESN or not. The assets are still shared until the time they move over. Therefore, the Service Transfer Plan is basically useless.³⁰⁸

4.74 In addition, as part of the negotiations in 2021 relating to the extension of the period of operation of the Airwave Network beyond 2022, the Home Office [redacted].³⁰⁹

4.75 Motorola also provided relevant information to us at its Response Hearing. It referred to the difficulty of transferring the network assets where the service contracts had different end dates and some users would require access to the network for longer than others (as was the case before the agreement of the HoTs

³⁰⁴ The contents of which were previously referred to in paragraphs 65–71 of Appendix A to the PDR.

³⁰⁵ Airwave Strategic Business Contingency Plan (SBCyP) version 3.0 of April 2014, paragraph 1.1. [redacted]
See also part 1 of Appendix E.

³⁰⁶ NAO, [Upgrading emergency service communications: The Emergency Services Network](#), 15 September 2016.

³⁰⁷ At its Response Hearing, Motorola said this was because the Home Office did not respond to its questions about the planned transfer. Motorola Response hearing with the CMA on 10 January 2023. [redacted]

³⁰⁸ Email from Home Office to Cabinet Office, 25 November 2021. [redacted]

³⁰⁹ Home Office note of meeting, 2 August 2021. [redacted]

in 2016).³¹⁰ It also acknowledged that no current, agreed and finalised Service Transfer Plan exists:

([redacted]) 'No, to be precise, the service transfer plan would set out -- when -- we have to agree a final one as we go through the termination or expiry process -- would set out which assets we're transferring'³¹¹

- 4.76 All of the above points are important. Even if the ineffectiveness of the asset transfer provisions was not a primary factor in the Home Office's decision to procure ESN, both it and Airwave Solutions understood (for different reasons) the limitations of those provisions. They produced uncertainty about the transfer of a viable network. Motorola has taken a position to similar effect on network asset transfers as when Macquarie owned Airwave Solutions. It, too, has placed an interpretation on the PFI Agreement's asset transfer provisions that would not result (and in fact has not resulted) in the transfer of assets to the Home Office (or any alternative network supplier). Moreover, with a full and complete Service Transfer Plan still to be agreed, the uncertainty to which the asset transfer provisions give rise continues (and has an ongoing effect on the possibility of the transfer of the assets to the Home Office – as to which see paragraphs 4.94 to 4.95 and 4.189 to 4.211 below).

Asset valuation

- 4.77 Additional uncertainties were (and are) liable to arise as a result of the way [redacted] of the PFI Agreement provides for transferable assets to be transferred at the end of the agreement for fair market value.³¹² We note that under the PFI guidance referred to above,³¹³ assets that have no practical alternative use³¹⁴ would normally be expected to transfer automatically to the contracting public authority at no cost. Other PFI guidance makes a similar point: that on expiry of a standard PFI contract, with rare exceptions, the key assets needed to continue to deliver public services should revert to the public sector free of charge.³¹⁵
- 4.78 The points set out in paragraphs 31 – 34 of part 1 of Appendix E suggest that some (if not most) of the key Airwave Network assets should in principle fall into the categories of 'asset with no practical alternative use' or of key assets required in the continued delivery of public services. The points reflect that the Airwave

³¹⁰ Motorola Response hearing with the CMA on 10 January 2023. [redacted].

³¹¹ Motorola Response hearing with the CMA on 10 January 2023. Motorola said this was because it needs the Home Office to provide a transition plan for ESN. [redacted]

³¹² To the Home Office or an alternative supplier.

³¹³ The Treasury Taskforce Guidance: Standardisation of PFI Contracts (1999).

³¹⁴ Such as 'Schools, hospitals, prisons, specialist information technology systems and office accommodation that, due to its location or nature, is only of value to the public sector procurer.' Treasury Taskforce Guidance: Standardisation of PFI Contracts (1999), paragraph 19.1.1.

³¹⁵ [PFI: Meeting the Investment Challenge](#), 15 July 2003, paragraph 3.53.

Network is dedicated for the exclusive use of the public emergency services and relevant Sharer organisations using radio spectrum reserved for that purpose.

4.79 The exit and asset transfer provisions did not, however, provide for the transfer of transferable Airwave Network assets to the Home Office at no cost at the end of the PFI Agreement. That is the case even though, as we refer to above,³¹⁶ the terms of the contracts were put in place for a specified period following a tendering process in which the winning bidder would be expected to set the price so as to recoup its expected costs of building the network and give it the chance of earning a reasonable return over that period. In addition, in a further departure from general guidance,³¹⁷ the basis on which the fair market value was to be calculated is not specified in the PFI Agreement. This created further uncertainty and the potential for dispute, had the Home Office sought to transfer the assets.

4.80 That uncertainty and potential for dispute is ongoing. At its Response Hearing, Motorola made a number of statements about the meaning and determination of the fair market value of the assets, including:

([36])..... that is, to be absolutely clear, a difficult question - so, how you would go about establishing fair market value. It's not something you can look up and just look at a table and say, "Well, that's, that's it". There is probably going to be some negotiation, some argument about that, but I think that's why the contract then would also refer to dispute resolution procedures that would settle that question.....³¹⁸

Other observations on asset transfer

4.81 We also make the following further observations on asset transfer and the asset transfer provisions.

4.82 We have seen documents produced by Airwave Solutions and Motorola as part of the due diligence process when the latter acquired the former. They include reports and board papers. Save in one instance in which the reference is qualified,³¹⁹ none of them refer to the asset transfer provisions of the PFI Agreement or suggest that the transfer of the assets away from Airwave Solutions

³¹⁶ And consider further in both Sections 3 and 6 of this report.

³¹⁷ The Treasury Taskforce Guidance: Standardisation of PFI Contracts (1999), paragraph 19.5.3.

³¹⁸ Motorola Response hearing with the CMA on 10 January 2023. [36]

³¹⁹ Which, reflecting the restrictive interpretation placed upon them by Airwave Solutions (under Macquarie's and Motorola's ownership), describes the provisions in a way that minimises the possibility of an asset transfer, saying, 'No right of takeover unless that assets [sic] is dedicated and used by a single agency.'

is a possibility. None of the documents suggest a transfer of the assets may affect the value of the company or the price of the Airwave Network services.³²⁰

- 4.83 We have similarly seen (and refer below to)³²¹ documents Airwave Solutions / Motorola produced in or around the time of the negotiations of the price of the Airwave Network services in 2016, 2018 and 2021. These include negotiation strategy documents and board papers. These documents also do not refer to the asset transfer provisions, the threat of the transfer of the assets or any effect on the price of the services.
- 4.84 Motorola has submitted that the absence of any reference to asset transfer in the Airwave acquisition documents, ‘...is only to be expected since at that time the Home Office had just commissioned ESN to replace Airwave in 2019.’ It also said that ‘Having agreed the terms for the future supply of Airwave services, it was entirely reasonable for Motorola to discount the possibility of an asset transfer under the termination provisions in its business case for the acquisition.’
- 4.85 We make two observations in this context. First, some of the Motorola documents relating to the acquisition of Airwave Solutions are from 2015. They pre-date the transaction and the agreement of the HoT (and any extension of the operation of the Airwave Network) with the Home Office in 2016. That being so, we might have expected those documents to make at least some reference to the PFI Agreement’s asset transfer provisions and their relevance had the delivery of ESN been delayed.
- 4.86 Second, had the relevant provisions made the transfer of the assets a credible possibility at least in the negotiations that occurred in 2018 and 2021 (when it was clear that ESN transition was more significantly delayed), and a threat to Airwave Solutions’ / Motorola’s positions, we might have expected the related documents to say so. It is plausible to think they would have set out how Airwave Solutions / Motorola would prepare for, and seek to mitigate, that risk.
- 4.87 Additionally, following its Response Hearing, and in light of its submissions that the Home Office could obtain the Airwave Network assets under the asset transfer provisions, we gave Motorola further opportunity to explain how the process would work.³²² We asked it:

³²⁰ For example, vendor financial due diligence report, June 2015 [redacted] technical due diligence report produced June 2015 for Motorola [redacted] and Motorola’s internal briefing and recommendations to the board, April 2015 [redacted]. Motorola’s internal notes from March 2015 mention asset transfer only at the end of the contract. [redacted]

³²¹ See paragraphs 4.116–4.117, 4.150, 4.168, 4.173, 4.205 and parts 3, 4 and 6 of Appendix E.

³²² CMA RFI to Motorola, 16 January 2023. [redacted]

- (a) in the absence of an agreed, complete Service Transfer Plan, how would all required tangible and intangible assets, equipment, contracts and personnel required to operate the Airwave Network be identified;
- (b) what process would need to be followed in case the parties were unable to agree the details of the Service Transfer Plan;
- (c) how would the price to be paid by the Home Office to Motorola for the transfer of all relevant assets, equipment, contracts and personnel be determined (and what does Motorola submit the basis of that price should be and how should it be reckoned); and
- (d) what process would need to be followed in case the parties were unable to agree the price?

4.88 In response, Motorola said:

Unless the parties agree on an alternative way of documenting the assets and processes applicable to an orderly transfer of service, then the Service Transfer Plan would need to be finalised and agreed in order to process the exit and transfer arrangements...

... If the parties were unable to agree the Service Transfer Plan, the parties would have recourse to the Dispute Resolution Procedure under the respective Blue Light Contract...

... The fair market value must be determined in relation to future use of the assets...

.... If the fair market value of such assets cannot be agreed, it shall be determined through the Dispute Resolution Procedure.³²³

4.89 In a subsequent submission made in the final stages of our investigation³²⁴ Motorola did assert that, 'There is ... no doubt as to which assets would form part of the transfer: it would be all of the assets owned by ASL [Airwave Solutions] except the non-Airwave service contracts [to which Airwave Solutions is party]...'. That, however, does not reflect its previous comments (at the Response Hearing and as set out above) nor any agreement reached with the Home Office. It appears to us, therefore, that the transferable assets and their valuation remain uncertain and open to ongoing dispute between the parties.

³²³ Motorola's RFI response dated 27 January 2023.

³²⁴ Motorola letter to the CMA, dated 2 March 2023. [3<]

Conclusions on asset transfer

- 4.90 In light of the above, we make the following assessments.
- 4.91 The PFI Agreement's asset transfer provisions have not been effective. They have given rise to uncertainty both as to the transferable assets and their valuation.
- 4.92 Prior to 2016, the uncertainty of the provisions had the effect of frustrating the possibility of the Airwave Network assets transferring to the Home Office at the end of the original period of the PFI Agreement,³²⁵ had the Home Office sought to do so. The Home Office was aware of the provisions' shortcomings and that played a part, if a limited one, in its choice in 2014/15 to procure ESN to replace the Airwave Network in 2019/20.
- 4.93 That is, since the relevant provisions did not appear to offer a real prospect (at least without significant risk of dispute, disruption and delay) of Airwave Network assets transferring to the Home Office³²⁶ it could not, for example, seek to secure a competitively priced continuation of the operation of the existing network through retendering its provision.³²⁷ That is reflected in comments made in a 16 November 2016 Briefing Pack to the Home Office's Permanent Secretary:
- we had not ability (sic) to run an effective competition to continue a Tetra service, because Airwave owned the infrastructure and held the spectrum licence.³²⁸
- 4.94 The provisions also had, and have, continuing effects, narrowing the options the Home Office might be expected to have in a well-functioning market. Airwave Solutions continued to own, and still owns, the Airwave Network assets. That ownership, and the uncertainty and potential for dispute to which the asset transfer provisions give rise, added to switching barriers the Home Office faced in circumstances where ESN was not ready to replace the Airwave Network in 2020.
- 4.95 In particular, in the absence of any alternative network and provider, and with the uncertainty of the asset transfer provisions affecting its ability credibly to pursue or threaten to pursue the transfer of the assets, the Home Office was locked in to continued provision of the network by Airwave Solutions / Motorola. It could not use the possibility of a transfer of the assets as a means of exerting pressure on the price of the ongoing provision of the Airwave Network services such that it is at the competitive level. Those effects also continue to apply. These are matters to which we return in paragraphs 4.189 to 4.209 below.

³²⁵ And have done so since – see below.

³²⁶ Or an alternative provider.

³²⁷ With arrangements regarding the funding and responsibility for any future capital expenditure to be decided by the Home Office in light of circumstances at the time.

³²⁸ Home Office internal document, 16 November 2016: [3<]

The decision to replace the Airwave Network with ESN

- 4.96 We also consider that the Home Office's decision to procure ESN in 2014/15 in order to replace the Airwave Network in 2020 had implications for the development of the market and of features that distort competition and give Airwave Solutions / Motorola market power.
- 4.97 In the period between 2010 and 2015, the difficulty in settling a Service Transfer Plan was one of a group of factors that led to the decision to procure ESN to replace the Airwave Network. Other factors, which we explain in more detail in paragraphs 37 to 49 in part 2 of Appendix E,³²⁹ included:
- (a) concerns related to Macquarie's continued ownership of Airwave Solutions on account of the high levels of debt in the latter;
 - (b) the government's approach to public expenditure after the 2010 general election;
 - (c) concerns about the lawfulness of extending the duration of the PFI Agreement;
 - (d) the deteriorating relationship between the Home Office and Macquarie / Airwave Solutions; and
 - (e) the opportunity to move to more modern 4G technology which would enable the provision of data services (eg video).
- 4.98 The Home Office responded to these issues and concerns by procuring ESN, to replace the Airwave Network with a network using LTE technology (4G) over commercial mobile networks, in 2014/15.³³⁰ It conducted a tendering exercise in which bidders were invited to compete for contracts to deliver aspects of the new network (Lots). The exercise resulted in Motorola and EE, amongst others, winning contracts in connection with which, after consultation with the Home

³²⁹ See also paragraphs 2.70–2.77 and Appendix B.

³³⁰ [Services - 133654-2014 - TED Tenders Electronic Daily \(europa.eu\)](#)

Office,³³¹ they agreed to put ESN in place in 2017 in order to complete the transition of users to it from the Airwave Network by 2020 (or shortly thereafter).³³²

- 4.99 In his 2017 report, Simon Ricketts, the technology adviser to the Home Office Permanent Under-Secretary, noted that at that time the chosen technology solution was ‘the first example, anywhere in the world, of delivering public safety communications services capability over a commercial network. It is also being done at a time when the standards that commoditise mission critical capability over 4 and 5G networks are quite recent, and only just working their way into finished hardware and software’. He emphasised the considerable risks associated with this:

Ensuring success in such a programme requires very considerable expertise in the area of supplier and technology integration, not just between the core suppliers (Motorola and EE), but also across the providers of devices, control room interfaces, vehicle installers, air to ground solutions, the London Underground and more. In the smoothest of environments delivering the ESMCP, with the first implementations starting 21 months³³³ after effective contract dates would have been extraordinarily demanding, not least because of the innovative nature of the solution. It is not unreasonable to suggest that the programme would rightly be placed at the top of the upper quartile of difficulty. It should be noted that Motorola have no experience of delivering a PSCS solution over a commercial network, and EE have never integrated a dedicated software solution over their commercial network, or contracted in such a major way with the public sector.³³⁴

- 4.100 The technology adviser added that the solution adopted by the government would become commonplace between 2020–2025 and that it was the urgency created by the commercial circumstances in the period between 2010 and 2015 that had ‘necessitated an early start on this journey’, which he summarised as follows:

³³¹ Implementation Plan Motorola agreed in connection with ESN Lot 2, which in Annex 1 to Schedule 6.1 of the ESN Lot 2 contract provided for the delivery of ESN in 2017 and completed transition to the new network in 2019/20.

Home Office internal document, October 2015 [§<]

Home Office internal document, 9 September 2015. [§<]

The initial delivery timetable for putting ESN in place prior to the transition between networks was extended from 17 to 21 months in consultation between the Home Office, EE and Motorola. Internal Home Office document, 6 October 2015 [§<]

During negotiations, the Home Office had offered to increase that timetable to 24 months, but both EE and Motorola stated that 21 months would be sufficient. [§<]. Minutes of Motorola meeting, 7 December 2015.

[§<]

³³² NAO (2016), [Upgrading emergency service communications: the Emergency Services Network](#) (HC 627),

[§<]

³³³ Extended from 17 months in consultation with EE and Motorola, EE and Motorola having stated that 21 months would be sufficient. [§<]

³³⁴ Emergency Services Mobile Communications Programme Independent Review by Simon Ricketts – Advisor to Permanent Under-Secretary, Home Office, October 2017. [§<]

In 2007 Airwave was acquired by the Australian Macquarie Funds Group, who leveraged the value of contracts and infrastructure to borrow heavily and load the Airwave company with debt. As a result, investment in the network stopped. In 2010, as part of the Government's cost reduction strategy, technology contracts were targeted for re-negotiation. The objective for Airwave contracts was to seek a reduction in cost (then £1m per day), in return for a mutually agreed extension period as contracts expired. Negotiations between the Government and Airwave Solutions Ltd broke down acrimoniously. It was concluded that the poor commercial relationship, lack of investment, and the fact that the assets did not return to the Government at the end of Airwave's contractual life posed a genuine threat to national infrastructure.³³⁵

Assessment

- 4.101 Our assessment based on the above is as follows.
- 4.102 While its timing proved to be over-optimistic, the Home Office's procurement of ESN, in response to the pressures created by the range of factors described, offered an opportunity to replace the Airwave Network in competitive circumstances. Had ESN been delivered in a timely way, as the providers agreed and as the Home Office originally anticipated, there would have been a new network with the desired added functionality, for which the providers had competed in a procurement exercise, replacing the existing one at the end of the original period of the PFI Agreement.
- 4.103 Such an outcome would have been consistent with the operation of a well-functioning market. However, over the following years, the procurement also shaped, and ultimately served to limit, the Home Office's options and contributed to a position in which Airwave Solutions / Motorola has market power.
- 4.104 That is, at the time of the procurement and for a period thereafter, the Home Office (not least in light of the winning bidders' agreements) anticipated the delivery of ESN in 2019/20 (or at least thereabouts) and relied on that expectation. That reliance, though, together with the fact that it was not (as described above and further below) in a position to (re)tender the continued provision of the existing network (or credibly to threaten to do so), made the Home Office's position dependent on such delivery occurring. If that delivery did not occur, the Home Office would be tied-in to the Airwave Network after the original period of the PFI Agreement. We go on to assess the implications of that dependence in the

³³⁵ Emergency Services Mobile Communications Programme Independent Review by Simon Ricketts – Advisor to Permanent Under-Secretary, Home Office, October 2017 [3<]

immediately following paragraphs and in the subsection on the implications of the delay in the implementation of ESN below.

Negotiation of the HoTs and DoR (2016)

- 4.105 Following the procurement of ESN in 2014/15, Motorola sought to acquire Airwave Solutions. The acquisition required the Home Office's consent and it and Motorola engaged in negotiations that led in February 2016 to the agreement of the HoTs. These negotiations are relevant in considering the development of the market because they resulted in an agreement that affected the terms on which any continued operation of the Airwave Network from 2020 onwards would occur.
- 4.106 We have accordingly considered: (i) the context in which the 2016 negotiations took place; (ii) whether in those negotiations the Home Office had credible alternative options and buyer power; and (iii) the agreement that was reached and its implications for the market.
- 4.107 The view we reach is that a number of factors affected the Home Office's ability to negotiate an agreement in 2016 that secured competitive outcomes. The position that emerged from the negotiations was that if the transition to ESN was completed on time in 2019/20 or shortly thereafter (ie without multi-year delays), the Airwave Network could be replaced with a new network resulting from a bidding process. If not, in our assessment, terms and prices for the continued operation of the Airwave Network would be subject to further negotiations depending on the strength of each party's bargaining position.
- 4.108 In other words, the 2016 negotiations produced an outcome that maintained the possibility of a replacement of the Airwave Network as we might expect in a well-functioning market. The outcome also, however, had the effect, in our view, of limiting the Home Office's options and adding to the potential development of features of the market distorting competition and giving Airwave Solutions / Motorola market power in the event that ESN was not ready to operate as the replacement network in or shortly after 2020. In those circumstances, it would be necessary for the Airwave Network to continue to operate. The terms on which it did so would be subject to negotiation in circumstances where Airwave Solutions still owned the network and the Home Office was reliant on it and had no other credible options.

Explanation

- 4.109 The following paragraphs set out the analysis that leads to our view.
- 4.110 In its response to the PDR, Motorola submitted that the 2016 negotiations took place after competition for the market, in the form of the ESN procurement, had just occurred. Motorola said the Home Office had freely agreed terms for the

extended operation of the Airwave Network if, and for as long as, it was required if ESN transition was delayed. That agreement was not made in a competitive process and there is no market or competition to assess.

- 4.111 For the reasons set out in paragraphs 3.25 to 3.27 of this report, we disagree and come to a different conclusion. In particular, that the 2016 negotiations were a process through which the price of the operation of the Airwave Network was set for a period in which no price otherwise existed. Put another way, the negotiations involved the setting of a price in relation to a period where, in principle in a well-functioning market, we would expect the price to be set in a competitive process like a tender. That process and its outcome is accordingly likely to be informative of the parties' relative bargaining power and of the state of competition in the market, and to be an important part of our assessment of whether features of the market are likely to have an adverse effect on competition.
- 4.112 We also note that Motorola had previously told us that the Home Office's bargaining power was particularly strong in 2016 because its consent was required to complete the purchase of Airwave Solutions.³³⁶ It described this in its response to the PDR as, '.... the point of 'maximum leverage' when it [the Home Office] could have threatened to withhold consent to the Airwave Acquisition.'³³⁷
- 4.113 Motorola had also previously told us that the Home Office's right of veto enabled it to secure the following significant concessions:
- (a) a perpetual obligation for Airwave Solutions to continue to deliver the Airwave Network service at its own risk until the final ESN transition group (whether delayed or on time) has transitioned to ESN and national shutdown occurs;
 - (b) a unilateral option to extend the Airwave Network services for any period beyond 2019 at agreed pricing and further flexibility (all aligned to possible ESN elongated transition scenarios) to require delivery of the Airwave Network services only to such ESN transition groups that are delayed in transitioning to ESN and need the service for longer than those groups that have transitioned;
 - (c) an essential and bespoke 'interoperability' (interworking) service under which the emergency services users would be able to communicate on an interoperable basis via the existing Airwave Tetra system and the new ESN PTT voice communication system during the transition phase from the Airwave Network to ESN;

³³⁶ [Motorola's response to the CMA's Issues Statement](#), 10 January 2022, paragraph 22.

³³⁷ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 1.18.

- (d) settlement of ongoing litigation between the Home Office and Airwave Solutions relating to benchmarking and variation of price equating to payments to the Home Office of £[>] million over three years;
- (e) the DoR providing financial remedies protecting the government from a delay to ESN caused solely by Motorola's ESN Lot 2 delivery and the consequential need to extend the provision of the Airwave Network services;
- (f) a common end date for all core contracts – police, fire and ambulance – removing the 'ragged edge' expiry dates, which would have been problematic for the Home Office's aspiration to complete ESN transition across all the emergency services by December 2019;
- (g) access to [>] of Airwave Solutions' sites located in rural areas in order to enable the Home Office to give effect to its ESN extended area coverage requirements;
- (h) flexibility for police forces to extend their existing menu services provision at current pricing for a period of their choice through to national shutdown at the latest; and
- (i) withdrawal of Airwave Solutions' procurement challenge that it had brought against the Home Office following its exclusion from the ESMCP (ESN) Lot 3 competition (avoiding the prospect that the Home Office could be forced to re-procure that element of ESN, which likely would have caused significant delay to its proposed timetable).

4.114 Motorola submitted that the Home Office did not seek to secure any form of price reduction at the relevant point in 2016, having secured the overall deal it wanted.³³⁸

4.115 We have therefore assessed the parties' bargaining positions in the 2016 negotiations. It is not an answer to the question of whether there are features of the market adversely affecting competition simply to say, as Motorola does, that the Home Office agreed the relevant terms. Nor that, as Motorola has also submitted, the agreement was between two 'well-advised' parties. Being well-advised is no doubt helpful to a party but does not transform its bargaining position. The issue is whether the Home Office had the options, and the competitive constraints applied, that we would expect in a well-functioning market.

4.116 Part [3] of Appendix D sets out the facts that we have been able to establish through our review of internal documents produced by Motorola and the Home

³³⁸ Motorola's response to the CMA's Issues Statement, 10 January 2022, paragraph 23. [Motorola's response to the CMA's Issues Statement](#).

Office in the context of those negotiations. Taking account of relevant submissions, we have focused on two key aspects of the negotiations:

- (a) the economic realities of the parties' bargaining positions and in particular the alternative options open to them; and
- (b) the outcome of the negotiation process, to the extent that it is an indicator of the exercise of market power by Motorola or buyer power by the Home Office.

- 4.117 Based on our review of the documents, it appears to us that the Home Office: (i) had no viable options in the 2016 negotiations other than to consent to Motorola's acquisition of Airwave Solutions; and (ii) had limited bargaining power. There are five key reasons why we do not regard the outcome as one in which the Home Office was able to use its position to secure concessions from Airwave Solutions / Motorola which were reflective of a competitive market.
- 4.118 First, the Home Office was not able in 2016 to walk away from Airwave Solutions. There was a need for the critical services provided by the Airwave Network to continue until ESN was (is) ready.
- 4.119 Second, the Home Office therefore had only two options: consenting to Motorola's acquisition of Airwave Solutions or accepting the consequences of continued ownership by Macquarie (there being no alternative buyer at the relevant time). The evidence we have assessed shows that the latter was seen by the Home Office as very risky, both operationally and financially.³³⁹ The Home Office's interest, because of the critical nature of the network, was in securing its provision until the end of the PFI Agreement period and aligning the various Airwave Network contracts to ensure the orderly closure of the Airwave Network and its replacement by ESN by the end of that period in 2020. The Home Office considered that the acquisition of Airwave Solutions by Motorola would remove a significant number of the operational and financial risks it was concerned about.³⁴⁰
- 4.120 Third, the risks to Motorola appear to have been more limited. It would have been liable to Macquarie for a £[X] million [X] if it failed to conclude the acquisition of Airwave Solutions by [X] (which in our view is a relatively small amount in the context of an acquisition cost of £[X] million and for a company of Motorola's size). We have not seen any evidence suggesting that Motorola doubted the willingness of the Home Office to consent to the acquisition. Rather, the Home Office conveyed to Motorola a positive response to the transaction and Motorola

³³⁹ For reasons including the debt level of the holding company Macquarie had set up, concerns about the draft Service Transfer Plan it had provided and its failure to provide an interworking solution to support the transition to ESN, as well as the deterioration in their working relationship.

³⁴⁰ Although Motorola's dual role in ESN and the Airwave Network was also identified as a potential conflict of interest that needed to be mitigated.

understood the Home Office to be ‘very keen’ from the outset of the negotiations.³⁴¹

- 4.121 Fourth, at the time of these negotiations, the Home Office anticipated that ESN would replace the Airwave Network in 2020. It had tendered, consulted and agreed with suppliers on that basis.³⁴² At the time of the 2016 negotiations, Motorola was writing to the Home Office referring to, ‘... when ESN is ready for service in September 2017’.³⁴³
- 4.122 Motorola also made these submissions to the CMA, as part of part of the merger assessment process in 2016:
- (a) It said it had, ‘... concluded legally binding arrangements with the UK Government (the “HoTs”), providing that all Airwave contracts for the emergency services will terminate on 31 December 2019...’ and, ‘.... entered into a legally binding commitment to have ESN user services ready for live service by September 2017, and a full migration completed by 31 December 2019...,’ and that, ‘By reason of these arrangements, Motorola is unequivocally economically committed to securing a timely preparation of the new ESN and a timely switch off of the Airwave network.’³⁴⁴
 - (b) It said ‘... The Airwave network will soon be shut down and its business is essentially in run-off.’³⁴⁵
 - (c) It also said, ‘.... there is no current expectation that the ESN roll out will be delayed ...’³⁴⁶
 - (d) As part of its submissions it provided the CMA with its board papers from 2015 relating to the acquisition. These reported an [X]% chance of the transition to ESN completing between 2019 and 2022 (rather than with a likelihood of substantial, multi-year delays).³⁴⁷
- 4.123 The Home Office was not therefore concerned generally to extend the original term of the PFI Agreement for a substantial period and did not consider that it could (at that time and in those circumstances) lawfully do so (see section 3 and Appendix E). Its interest was to align the end dates of the various Airwave

³⁴¹ Motorola internal email, 16 November 2015. [X] Motorola internal email, 13 November 2015. [X]

³⁴² Motorola agreed the Implementation Plan for ESN Lot 2, which in Annex 1 to Schedule 6.1 of the ESN Lot 2 contract provided for the delivery of ESN in 2017 and completed transition to the new network in 2019/2020.

³⁴³ Email from Motorola to the Home Office, 27 January 2016. [X]

³⁴⁴ Motorola submission to the CMA, 12 April 2016.

³⁴⁵ Motorola submission to the CMA, 23 March 2016.

³⁴⁶ Motorola submission to the CMA, 20 April 2016.

³⁴⁷ Motorola submission to the CMA, 12 April 2016. We note also that the same document estimated a [X]% chance ESN would not be ready to replace the Airwave Network in 2019 / 2020, but it did not indicate a high estimated possibility of long, multi-year delays.

contracts to ensure the orderly closure and replacement of the Airwave Network, and to obtain the right to short extensions to cover possible delays in network transition in particular regions.

- 4.124 In that context, it would not have been relevant or sensible for the Home Office to pursue the possibility of acquiring the Airwave Network assets under the PFI Agreements' asset transfer provisions. Nor would it have been credible for it to threaten to do so as a means of constraining the price of the Airwave Network services. The provisions were subject to the uncertainties described above (of which the Home Office was aware), and the difficulty that resulted from the services contracts having different end dates (again described above and in part 1 of Appendix E). Having procured ESN and expecting it to be ready in 2019/2020, neither party contemplated the Home Office acquiring the assets or threatening to do so as part of the negotiations in 2016.
- 4.125 Fifth, the evidence we have assessed indicates that both the Home Office's and Airwave Solutions' / Motorola's position was that, if it became necessary generally to extend the operation of the (whole) Airwave Network for a significant period, that (and the price) would be subject to further negotiation.³⁴⁸ The right that Airwave Solutions and the Home Office agreed in the HoTs for the latter to be able to extend the operation of the network at the current price was, in effect, an option (or backstop price) it would have in any future negotiations (which would depend on the parties' outside options and bargaining power at the time).³⁴⁹
- 4.126 We also observe that Motorola's internal assessment of the outcome of these negotiations (as reflected in its February 2016 board paper) was highly positive. It showed that Motorola had improved its Airwave Solutions acquisition business case by an overall US\$[>] million increase in revenue compared to the position put to the board when recommending the acquisition in November 2015.³⁵⁰ It also described the outcome of the negotiations as 'de-risking' its business plan.

Assessment

- 4.127 Accordingly there were, in our view, a number of factors which affected the Home Office's ability to negotiate an agreement in 2016 that secured competitive outcomes. The outcome that did emerge from the 2016 negotiations was that if ESN was ready in 2020 or shortly thereafter, there could be an orderly closure of the Airwave Network and its replacement with a new and enhanced network

³⁴⁸ See paragraphs 3.47–3.56 and part 3 of Appendix E.

³⁴⁹ And we note that this price was set at a level that reflected the cost of setting up a new network. We would not have expected this to be the case if the Home Office had credible outside options and bargaining power in 2016.

³⁵⁰ With, as we note above, the potential extension of the Airwave Network 18 months beyond the then national shutdown target date at current prices adding US\$[>] million. Airwave Transaction, Board of Directors, February 2016. [>]

resulting from a bidding process. If not, however, terms and prices for the continued operation of the Airwave Network would be subject to further negotiations where the outcome would depend on the strength of each party's bargaining positions. We consider the implications of that outcome in paragraphs 4.128 to 4.138 below.

Implications of delay in the implementation of ESN

4.128 An important factor, in our view, in the current market situation is the delay in the delivery of ESN and its replacement of the Airwave Network. Specifically, the replacement will now take much longer than the parties, and especially the Home Office, anticipated (and Motorola and EE agreed) when it was procured in 2015 and when the HoTs were agreed in 2016.³⁵¹

4.129 We have considered Motorola's submission that any unmet expectations the Home Office had about the delivery of ESN are not a failure of competition. Specifically, Motorola said:

.... The false hopes of the Home Office cannot be allowed to drive the suggestion of whether any putative 'Airwave extension market' was working well. Even if one believes that the Home Office might have made a different choice if it had not had expectations that, in hindsight, turn out to have been wrong, this is not a failure of competition and it cannot form the basis of an intervention on competition grounds³⁵²

4.130 We also note that Motorola told us in an additional submission³⁵³ made late in our investigation that:

Once it was clear that ESN was not going to be ready by 2019, in theory³⁵⁴ there *could have* been a competition problem through the dependence of the Home Office on Motorola for the so-called post-PFI period.

4.131 We have set out in paragraphs 4.121 and 4.123 above, the basis on which the Home Office, at least in 2015/16, expected ESN to replace the Airwave Network in 2019/20. Likewise, in paragraph 4.122, the basis of Motorola's expectations that, whilst it might have been delayed for a period, it did not expect the multi-year delays that have occurred.

³⁵¹ Home Office meeting minutes [redacted]; Motorola presentation, 7 October 2015 [redacted]; Home Office note, 6 July 2018 [redacted]; and Home Office document "ESMCP Transition Plan History", 9 September 2015. [redacted]

³⁵² [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraphs 3.36–3.39.

³⁵³ Motorola letter to the CMA, dated 2 March 2023. [redacted]

³⁵⁴ Though we also note that Motorola added in a footnote: 'Even this theory is questionable given that this would be a bilateral monopoly.'

- 4.132 In our judgement, it is not the parties', and principally the Home Office's, unmet expectations that in themselves represent a failure of competition. The delay, however, is important because the position is materially different to what the parties, or the Home Office at least, expected it to be. The delay in the transition to ESN affects whether the Airwave Network:
- (a) is replaced by a competitively procured and priced new and better network, as might be expected in a well-functioning market; or
 - (b) continues to be provided by Airwave Solutions / Motorola after the original period of the PFI Agreement in circumstances where features of the market prevent, restrict or distort competition and Airwave Solutions / Motorola has market power.
- 4.133 We assess those matters in this subsection. Our view, as we go on to explain, is that the delay is a (structural) feature of the market that distorts competition. For a substantial period (but of uncertain duration until ESN is ready to replace it) the terms and price for the continued provision of the Airwave Network were (and are) subject to bilateral negotiation between the Home Office and Airwave Solutions / Motorola. Since the outcome of those negotiations depended (and depends) on the parties' alternative options and bargaining positions, there was (and is) the potential for competition to be distorted. We go on, in the subsection below on bilateral negotiations, to explain our further assessment that, in those negotiations, the Home Office had (and has) no credible option other than to pay the default price agreed in 2016, and Airwave Solutions / Motorola had, and has, unilateral market power and is able to set and maintain prices above the competitive level.

Explanation

- 4.134 From the point at which the Home Office started to evaluate options for the replacement of the Airwave Network, in 2011, to the current National Shutdown Date of 31 December 2026 (the earliest point at which the Airwave Network is expected to be switched off), around 15 years will have passed. This is much longer than the commitments the Home Office and its chosen providers agreed for the delivery of ESN (and the transition between networks by 2020) and much longer than either party expected.
- 4.135 Had the Home Office's plans come to fruition, the total period from conception to adoption of the replacement of the Airwave Network would have been 9-10 years, including:
- (a) around five years for the evaluation of options and procurement (from 2011 to December 2015);

- (b) 21 months for the delivery of the ESN network (as agreed with EE and Motorola following consultation); and
- (c) 27 months for the transition between the networks (although this was a condensed timetable from the initial four years that was originally envisaged by the Home Office for the transition).³⁵⁵

- 4.136 Meeting this delivery timetable (or even coming close to doing so) would have meant that a replacement network (ESN) that had been the subject of a competitive tendering process would have replaced the Airwave Network at or around the time of the expiry of the original period of the PFI Agreement (and in which period the price of supply had been set in the type of process we might expect in a well-functioning market).
- 4.137 Not meeting that timetable (and by a large margin) means there is a period (of uncertain but substantial duration) from 2020 until ESN (or another replacement network) is ready and transition has occurred, during which the Home Office requires the continued provision of the Airwave Network. During this substantial period, prices are set (or maintained) through bilateral negotiation (subject to the backstop position agreed in the HoTs – also following bilateral negotiation – in 2016), rather than as an outcome of a bidding or tendering process for a fixed-term contract (as had been the case in the period from 2000 to 2019). The outcome of these negotiations depends on the parties' bargaining power, which is ultimately determined by the alternative options each of them has.
- 4.138 We therefore consider that the delay in the implementation of ESN (regardless of its causes) has the potential to distort, or contribute to the distortion of, the competitive process. In the subsection below on bilateral negotiations and in parts [3 - 6] of Appendix D, we assess the extent to which this potential has been realised. We examine the competitive dynamics that can be observed in these circumstances, starting with the price negotiations that took place in 2018 and 2021 (as well as considering the [3<]).

Bilateral negotiations (2018 and 2021) and recent discussions

- 4.139 In 2018 and 2021, bilateral negotiations about the extension of the provision of the Airwave Network took place between the Home Office and Airwave Solutions / Motorola. Those negotiations occurred in circumstances where ESN was not ready to replace the Airwave Network in 2020 and related to the continued provision of the Airwave Network by Airwave Solutions after the original period fixed by the PFI Agreement. In this subsection we consider those negotiations. We

³⁵⁵ Home Office presentation, 7 October 2015 [3<]; Home Office note, 6 July 2018 [3<]; internal Home Office document, 6 October 2015 [3<]; and Home Office project plan, 24 April 2015 [3<]

assess what they can tell us about the extent to which Airwave Solutions / Motorola has market power, as well as the extent to which any such market power is constrained by countervailing buyer power on the part of the Home Office.

- 4.140 The conclusion we draw from our analysis is that in the 2018 and 2021 negotiations the Home Office lacked the options we might expect it to have in a well-functioning market and did not have countervailing buyer power. Airwave Solutions / Motorola had market power that enabled the setting of a price that generates profits at a supernormal level. This is because the Home Office requires the provision of the Airwave Network for critical emergency services communications until ESN (or another replacement network) is ready to replace it. Airwave Solutions / Motorola continues to own the Airwave Network and there is no alternative available to the Home Office. The transfer of the Airwave Network assets to the Home Office was not a credible option. The price that applied in the original period of the PFI Agreement between 2000 and 2019 might have been constrained by competition (at least in principle), but that is not the case after that period.
- 4.141 We also make the assessment that the [X], is recent evidence that it and Airwave Solutions continue to have market power. Our further assessment is that that position will continue until 2026, likely until 2029 and possibly longer.

Explanation

- 4.142 We begin by making observations about two key outcomes from the negotiations in 2018 and 2021. Namely that:
- (a) whilst there were some modifications, the resulting terms (or those that apply in default of agreement) are substantially based on the existing terms of the PFI Agreement that were set to cover the period between 2000 and 2019) – ie a price that reflected the cost of setting up an entirely new network;³⁵⁶ and
 - (b) our analysis of the profitability of the price agreed indicates that Airwave Solutions (and Motorola) are generating supernormal profits in the period after 2019 (after the end of the original period of the PFI Agreement).
- 4.143 Those observations, in our view, provide a basis to suspect (or an indicator) that in the negotiations the Home Office lacks options and countervailing buyer power, and that Airwave Solutions / Motorola has substantial market power (and can set and maintain a price substantially above the level we would expect if the market were functioning well). They provide strong corroboration where the evidence relating to the negotiations points in the same direction.

³⁵⁶ Less a [X]% discount that was agreed in 2018, for example see paragraphs 198–200 in Appendix C.

- 4.144 We then go on to consider the documentary evidence in order to assess the parties' positions in the negotiations. In making our assessment, we take account of submissions the parties have made.

Outcomes and manifestations of bargaining positions

- 4.145 We begin, as we indicate above, with the following two (linked) observations on the outcomes of the 2018 and 2021 negotiations and what they may tell us about the parties' bargaining positions. In our view, the 'deal' the parties struck can be probative of the level of competitiveness of those negotiations, in particular where it is consistent with other evidence.
- 4.146 The first of the observations relates to the price that the parties agreed or which resulted from the negotiations. The second relates to the profitability of that price.
- 4.147 As to the first point, we observe that, while they were amended to some extent, the terms agreed in the 2018 negotiations were, essentially, a continuation of the provision of the Airwave Network after 2019 at the same price as in the period before that date (ie in the original period of the PFI Agreement), less a [~~3~~] % discount.³⁵⁷ In the 2021 negotiations, the parties were unable to reach agreement and in [~~3~~], the practical effect of which was to extend the provision of the network at essentially the same price (which was the default price under the HoTs).
- 4.148 The Home Office agreed to pay these charges (and Airwave Solutions / Motorola can maintain them) notwithstanding that, as we note elsewhere in this report, the price for the original period of the PFI Agreement was set after a tender process where, if it was competitive, the winning bidder could reasonably have been expected to seek a price that recovered its expected investment and offered the possibility of earning a reasonable rate of return for that period. In a competitive market, it would be expected that, after that period, the price would be modified to reflect that investment costs should have been recovered. That this did not happen is, in our view, consistent with the Home Office lacking alternative options and buyer power in the negotiations and with Airwave Solutions / Motorola having market power.
- 4.149 On the second point, our analysis of Airwave Solutions' profitability in the period from 2020 to 2029 shows that it can expect to generate total excess profits over that period of around £1.27 billion (see section 6). We observe that with Airwave Solutions continuing to charge substantially the same price as in the original period of the PFI Agreement, the Home Office is essentially paying twice for the network assets. That is not what we would expect in a well-functioning market. The resulting supernormal profits are in our assessment consistent with Airwave Solutions / Motorola now having unilateral market power in relation to the supply of

³⁵⁷[~~3~~]

the Airwave Network and with the Home Office having neither alternative options nor countervailing buyer power. We also note that Airwave Solutions accounts for 7% of Motorola's global revenues but 21% of its global pre-tax profits.³⁵⁸

Evidence from negotiations

4.150 We have assessed the contemporaneous and related evidence about the negotiations in 2018 and 2021. Our assessment is that it shows that the Home Office lacked outside options and buyer power and that market power lay with Airwave Solutions / Motorola. We note that, as we describe below, this is a position Motorola itself recognised in its internal business documents, commenting in particular that:

... There is no alternative technology currently available to Airwave's UK customers and Airwave has no direct competitors ...

[and]

Pricing [...] will be subject to further negotiation. However, this is not expected to materially affect the profitability of the Airwave contract beyond 2022. Airwave customers do not currently have an alternative option.

4.151 In making our assessment, we have considered the evidence that relates to each of:

- (a) the chronology and conduct of the negotiations;
- (b) factors affecting the parties' options and their bargaining positions; and
- (c) the parties' perceptions of their bargaining positions.

4.152 We have also considered the parties' submissions both prior to and in response to the PDR.

4.153 Motorola submitted that:

- (a) The Home Office has significant bargaining power as it is a monopsonist in respect of both ESN and the Airwave Network and has used its monopsony power in a number of ways over time,^{359 360} including for example, to:

³⁵⁸ [Motorola Solutions, Inc Earnings Release and Financial Tables for the year ended 31 December 2021](#), Airwave Solutions Limited Annual Report and Financial Statements for the year ended 31 December 2021. Based on HMRC average \$:£ exchange rate for the year ended 31 December 2021 of 0.7259.

³⁵⁹ [Motorola's response to the CMA's Issues Statement](#), 10 January 2022, paragraph 44.

³⁶⁰ [Motorola's response to the CMA's Issues Statement](#), 10 January 2022, paragraphs 51–54.

- (i) successfully lower prices outside of contractually agreed terms and defer significant payments;
 - (ii) refuse to make certain significant payments due under its contracts with Airwave Solutions, such as refusing to pay approximately £[<] million in aged debt in 2014, which was addressed through mediation, and in relation to work carried out by Motorola on ESN;
 - (iii) require work to be done without committing to payment terms;³⁶¹
 - (iv) engage in a pattern of obstructive behaviour towards Motorola's ESN delivery efforts in the period after October 2020, and in particular the obstruction of the implementation of a [<] plan; and
 - (v) act independently of budget constraints and set targets that are roundly rejected by industry, by setting an unrealistic timetable for ESN; and
- (b) 'the only 'negotiations' that have been taking place since 2016 are unilateral demands by the Home Office for *ex gratia* discounts'.³⁶²

4.154 Motorola also made the submissions referred to in paragraph 4.18 above about the PFI Agreement's asset transfer provisions, including that they '... were simple, were effective and could have been applied ... at any time by the Home Office....,' that the Home Office had the option to acquire the Airwave Network assets, and could have done so, in 2019 and still can,³⁶³ and that the Home Office chose not to rely on those provisions and pursue an asset transfer.³⁶⁴

4.155 Motorola has also told us:³⁶⁵

- (a) Airwave Solutions / Motorola cannot have market power in respect of the Airwave Network because:
 - (i) they cannot compete for their customers, who are being removed by the Home Office's procurement of ESN (and the contract under which the Airwave Network is provided is just a contract in 'run-off' and 'the Airwave service is simply the execution of a contract on agreed terms'); and
 - (ii) they are not, and have never been, in a position to raise prices;

³⁶¹ Including that in 2020 and 2021, Airwave Solutions / Motorola was working on over £[<] million of Home Office change requests while prolonged negotiations on pricing for such requests took place.

³⁶² [Motorola's response to the CMA's market investigation reference](#), 15 November 2021, paragraph 4 and [Motorola's response to the CMA's Issues Statement](#), section 3.2.

³⁶³ Motorola Response hearing with the CMA on 10 January 2023 [<]

³⁶⁴ Motorola letter to the CMA, dated 2 March 2023. [<]

³⁶⁵ Update Note sent by Motorola to the CMA on 7 September 2022. [<]

- (b) any market power they do have is transitory and outside their control; and
- (c) they made an offer to the Home Office in July 2022 to extend the Airwave contract for up to ten years in exchange for price discounts, and with the Home Office having break-clause options, but the Home Office has not accepted the offer, indicating that they do not enjoy market power or a privileged bargaining position.

4.156 The Home Office has submitted that Airwave Solutions / Motorola has market power in relation to the negotiations because:³⁶⁶

- (a) the Home Office has [redacted];
- (b) Airwave Solutions / Motorola has an attractive 'inside' option as, absent any agreement over new terms, the Home Office is obliged to continue to support the Airwave Network on the prevailing terms (those agreed in the HoTs in 2016) which it does not consider were competitive; and
- (c) it considers that there is asymmetry and a lack of information provided to the Home Office.

Evidence relating to the chronology and conduct of the negotiations

4.157 Motorola's submissions have included that the negotiations since 2016 are unilateral demands by the Home Office for *ex gratia* discounts on the price of the continued operation of the Airwave Network agreed in the HoTs in 2016. In other words, the Home Office was seeking to exercise buyer power.

4.158 Motorola supported these submissions by saying that:

- (a) The 2018 negotiations started with the Home Office approaching Motorola in April 2018 seeking a ten-year continuation of the Airwave Network contract and that Motorola, despite the parties having agreed the pricing that would apply for as long as the Airwave Network continued to operate, proposed an 'innovative' discount structure of [redacted]%/[redacted]%/[redacted]% over time, with discounts staggered in line with network investments that would be required.³⁶⁷
- (b) The Home Office subsequently requested a proposal for an extension of the operation of the network based on a rolling 18-month contract structure but, 'As Airwave Solutions was unable to accommodate such an arrangement without significant increases in the price of the Airwave service, it offered the option of contract breaks at predefined points.'³⁶⁸

³⁶⁶ [Home Office's response to the CMA's Issues Statement](#), 10 January 2022, paragraph 24, section 3.2.

³⁶⁷ [Motorola's response to the CMA's Issues Statement](#), 10 January 2022, paragraph 29.

³⁶⁸ [Motorola's response to the CMA's Issues Statement](#), 10 January 2022, paragraph 30.

- (c) Motorola went on to submit a proposal to the Home Office in June 2018³⁶⁹ and three months later the Home Office sought and obtained an extension of the operation of the Airwave Network services for a further three years beyond 2019 at a [X] % discount to the existing service charge.³⁷⁰

- 4.159 In Motorola's view, this negotiation process, where the Home Office asked Airwave Solutions for quotes for different scenarios which Airwave Solutions went on to provide, demonstrated that Airwave Solutions was engaging with the Home Office constructively. Motorola noted that in doing so, Airwave Solutions was exploring ways of providing the Home Office with the flexibility of service provision it required.³⁷¹
- 4.160 Motorola has also stated that the Home Office was in the driving seat throughout these negotiations, setting its requirements and deciding which of the options offered by Airwave Solutions it would eventually pursue. Airwave Solutions provided a range of options rather than simply pointing to the existing terms and (for example) threatening to stop providing the service altogether if the Home Office did not accept those terms.³⁷²
- 4.161 We have considered these submissions but we do not agree with Motorola's assessment. In our judgement, the evidence suggests a different chronology and that both parties expected any significant extensions of the period of operation of the whole Airwave Network after 2019 to be the subject of negotiation, as we describe below and in parts [3 and 4] of Appendix D (and we assess the parties' outside options and bargaining power in those negotiations further below and in parts [5 and 6] of Appendix D).

The 2018 negotiations

- 4.162 Our assessment of the evidence³⁷³ is that a process of discussion which led to the 2018 negotiations was instigated by Motorola in 2017. Similarly, the evidence indicates, the negotiations in 2018 were not just a process in which Airwave Solutions and Motorola were seeking to respond to the Home Office's unilateral demands by offering it a range of options. The evidence is not supportive of the Home Office exercising countervailing buyer power.
- 4.163 We start by echoing the general observation we made in section 3 of this report. That is, negotiations will generally be conducted in response to an approach by one party to another. The responding party may put forward a range of options in

³⁶⁹ [Motorola's response to the CMA's Issues Statement](#), 10 January 2022, paragraph 31.

³⁷⁰ [Motorola's response to the CMA's Issues Statement](#), 10 January 2022, paragraph 32.

³⁷¹ [Motorola's response to the CMA's Issues Statement](#), 10 January 2022, paragraph 34.

³⁷² [Motorola's response to the CMA's Issues Statement](#), 10 January 2022, paragraph 35.

³⁷³ That referred to below, in parts 3 and 4 of Appendix E, and in other contemporaneous documents such as: Letter from Motorola to Home Office, November 2017 [X]. Internal Home Office presentation, November 2017. [X] Emails from Motorola to the Home Office and internal Home Office emails, November 2017. [X].

its response. Those options may, however, reflect its market power. In principle, therefore, the instigation of negotiations by a party in the position of a customer does not necessarily indicate buyer power.

- 4.164 We also observe that in fact the discussions that culminated in the 2018 negotiations were begun by Motorola, as set out in part 4 of Appendix E. Those initial discussions followed the chronology described there. Their outcome was that, by the end of December 2017, Motorola had secured a payment of £[redacted] million relating to ESN, in return for, among other things, entering into a contract with [redacted].³⁷⁴
- 4.165 The points in the previous paragraph provide important context for the further negotiations that followed in 2018. They are relevant in two ways:
- (a) First, they show that discussion of the extension of the operation of the Airwave Network had already begun beforehand, the matter having been raised by Motorola, rather than occurring at the Home Office's unilateral demand in 2018; and
 - (b) second, the outcome of these events was that Motorola received a substantial payment under the ESN Lot 2 contract, that the Home Office had no obligation to make, by using its control of the Airwave Network as a bargaining chip.
- 4.166 The events are not, in our assessment, indicative of the Home Office exercising countervailing buyer power.
- 4.167 Moreover, our assessment of the evidence relating to the negotiations that followed in 2018 is this: both parties engaged in the kind of discussions they expected were necessary once it became clear that a significant extension of the operation of the whole of the Airwave Network was required (because ESN was delayed). In those negotiations, rather than simply responding to the Home Office's initiative in driving matters, Motorola pursued its own objective of securing a long extension of the operation of the network and the offers it made to the Home Office were not compatible with the prompt delivery of ESN as the Home Office sought (and nor did they offer to provide Airwave Network services at a price reflecting the competitive level). The Home Office's position was that it would not entertain long extensions of the Airwave Network.
- 4.168 We observe the following:
- (a) The evidence we have assessed in section 3 and in parts 3 and 4 of Appendix E is consistent with both parties not contemplating that the

³⁷⁴ The Time Division Multiplex, or TDM, service. The agreement was reached [redacted]: Email from Motorola to the Home Office and the Cabinet Office, 15 December 2017. [redacted]

agreement made in 2016 set the price for the continued operation of the Airwave Network in perpetuity (for however long necessary) from 2019. That evidence is consistent with their positions being that, were it necessary after 2016 to significantly extend the operation of the Airwave Network, that would be the subject of negotiation between them.

- (b) Although the evidence shows that in early April 2018 the Home Office formally asked Motorola for a quote for a ten-year extension of the operation of the Airwave Network,³⁷⁵ it was Motorola that had advocated an extension of this length in a previous meeting, while the Home Office had expressed doubt that this would be acceptable to the government.³⁷⁶
- (c) The discounts offered by Motorola in its ten-year fixed extension model were considered by the Home Office as too low³⁷⁷ and not compatible with incentivising Motorola to speed up the transition to ESN. They prompted its Senior Responsible Officer for the project to state that if the transition to ESN could not be completed within five years, [redacted]³⁷⁸
- (d) A second model for the seven-year extension of the operation of the Airwave Network, with break clauses, does not appear to have been prepared at the Home Office's instigation, but rather at Motorola's.³⁷⁹
- (e) Contemporaneous documents show that Motorola resisted the Home Office's requests for an 18-month rolling contract for the ongoing operation of the network, stating it would be 'impossible to deal with financially'³⁸⁰ and apparently having told the Home Office it could 'only do long term' extensions.³⁸¹

4.169 Internal Home Office documents show that it did not see [redacted]. By early July, Motorola was seeking to secure the Home Office's agreement to a 6-year extension, while the Home Office wanted to negotiate a 2.5- to 3.5-year extension.³⁸²

³⁷⁵ Email from the Home Office to Motorola, 5 April 2018. [redacted]

³⁷⁶ Based on 8 March 2018 email from [redacted] to [redacted] commenting on a commercial discussion held with the Home Office, in which he reports: [redacted] (Internal Motorola email 8 March 2018 [redacted]). Also based on evidence that Motorola had started to model a 10-year extension before the request from the Home Office was made. (Internal Motorola email, 6 March 2018 [redacted] and internal Motorola analysis, 13 December 2017 [redacted])

³⁷⁷ And we note that the price would have been set substantially above the level which we assess would reflect the competitive level.

³⁷⁸ Internal Home Office email, 17 April 2018. [redacted]

³⁷⁹ Internal Motorola presentation, 15 May 2018 [redacted] and Motorola internal email, 15 May 2018 [redacted]

³⁸⁰ Motorola presentation, 6 June 2018. [redacted]

³⁸¹ Home Office email to Deloitte, 16 July 2018. [redacted]

³⁸² Home Office internal emails 17 and 18 April 2018 [redacted]; Home Office internal emails 13 July [redacted], Home Office correspondence with Motorola and Home Office internal emails 4 and 5 July 2018 [redacted]; Home Office correspondence with Motorola and Home Office internal emails 4–5 July 2018 [redacted]; and Home Office internal briefing note, 17 July 2018 [redacted]

- 4.170 The evidence also shows that the Home Office's priority was resolving its concerns with the provision and timetable for delivery of ESN, rather than simply securing extensions of the operation of the Airwave Network.³⁸³ In May 2018, [redacted], and a new procurement exercise conducted at a later date, or to relaunch the programme with an incremental delivery plan.³⁸⁴ Resolving concerns with the ESN programme consumed a significant part of the negotiations in this period.³⁸⁵
- 4.171 Accordingly, our assessment is that the evidence does not show that the 2018 negotiations were conducted in response to the Home Office exercising buyer power and making unilateral demands of Airwave Solutions / Motorola for *ex gratia* discounts on the price agreed in the HoTs in 2016. They were negotiations that both parties anticipated for the wholesale extension of the operation of the Airwave Network and the replanning of the delivery of ESN once it was clear that that latter was significantly delayed.

The 2021 negotiations

- 4.172 We make a similar assessment of the 2021 negotiations (which ultimately did not result in an agreement).
- 4.173 The evidence again shows that both parties anticipated, when it became clear that the period of operation of the Airwave Network would need further extension (due to ESN being further delayed), that negotiation would be required. We observe, for example, that:
- (a) In a review it undertook on 31 December 2019 (its impairment review), Motorola noted that it is [redacted] and that [redacted]. It also stated that [redacted].³⁸⁶
 - (b) In August 2020, Motorola was preparing for discussions around two possible extension durations: a one to three year extension, with no discount, or a four to six year extension that would 'allow multiple year overlap with ESN' and would be likely to require Motorola to give a discount in order to secure.³⁸⁷
 - (c) In a presentation [redacted], prepared in anticipation of the 2021 negotiations, Motorola noted that, [redacted]³⁸⁸ The presentation set out Motorola's key objectives for the negotiations, which included its desires to avoid [redacted], to protect itself against [redacted] and to maximise [redacted].
 - (d) The Home Office's starting point in seeking to negotiate in 2021 was not the then current price. Instead, it sought to move to a pricing model that would be

³⁸³ Email correspondence between Motorola and the Home Office, 2-5 July 2018. [redacted]

³⁸⁴ Internal Home Office briefing, 6 June 2018. [redacted]

³⁸⁵ Home Office Permanent Secretary – Briefing Note: Emergency Services Commercial Update. [redacted]

³⁸⁶ Airwave Review, 31 December 2019. [redacted]

³⁸⁷ Internal Motorola presentation, 25 August 2020, [redacted]

³⁸⁸ Internal Motorola presentation, [redacted]

based on a cost + margin with an element of incentivisation linked to the delivery of ESN.³⁸⁹ In its June 2021 negotiation playbook, the Home Office weighed up various options to move forward with Motorola and its ESN Lot 2 delivery and highlighted its recommendation to move to a fixed combined revenue profile.³⁹⁰

- (e) On 25 June 2021, Motorola made the case to the Home Office that the Airwave Network core charge should increase by £[redacted] million to fund its proposed capex investment (including 'a [redacted]' on costs).³⁹¹
- (f) On 2 August 2021, Motorola and the Home Office met to further their negotiations. A key focus of this meeting was the cost of future extensions of the Airwave Network's operation (as well as the Home Office's request for greater transparency, including the repeated request for open book accounting).³⁹² The follow-up email sent by the Home Office demonstrates that little progress appears to have been made regarding the Home Office's concerns around the pricing of the Airwave Network extensions (or transparency).³⁹³
- (g) Following a request on 30 September 2021, Motorola provided the Home Office with its 2021 financial documents and projected profitability for the years 2023 to 2026.³⁹⁴

4.174 Each of the interactions described above are, in our view, wholly consistent with both the Home Office and Airwave Solutions / Motorola expecting that the further extension of the period of operation of the Airwave Network after 2019 would be subject to negotiation, rather than having been settled by the agreement reached in the HoTs in 2016.

Factors affecting the bargaining positions of Motorola and the Home Office

4.175 In the 2018 and 2021 negotiations, the Home Office, in our assessment, lacked credible alternative options and did not have countervailing buyer power, notwithstanding Motorola's submissions to that effect. Rather, Airwave Solutions / Motorola had market power. There are several relevant factors.³⁹⁵ The first set demonstrate that the Home Office had (and has) a continued reliance on the

³⁸⁹ Internal Motorola messages, 14 June 2021 [redacted] and letter from Home Office to Motorola, 5 August 2021 [redacted]

³⁹⁰ Internal Home Office presentation, June 2021. [redacted]

³⁹¹ Motorola presentation, 25 June 2021 [redacted]. We note that this [redacted]% margin was applied on top of intercompany margins.

³⁹² Email from Home Office to Motorola, 4 August 2021. [redacted]

³⁹³ Email from Home Office to Motorola, 4 August 2021. [redacted]

³⁹⁴ Email from Motorola to the Home Office, 1 October 2021 [redacted] and note of meeting between Home Office and Motorola, 2 August 2021 [redacted]

³⁹⁵ In the PDR, we presented these as four reasons. In light of the parties' responses and our assessment of them, we have broken the reasons down and illuminated them further.

Airwave Network and Airwave Solutions / Motorola. The second set demonstrate that there was (and is) a lack of constraint or pressure on the price that would result in it being set at the competitive level (and enabling it to be maintained substantially above that level).³⁹⁶

Continued reliance on Airwave Network

- 4.176 There are three factors that in our view demonstrate that the Home Office had (and has) a continued reliance on the Airwave Network and Airwave Solutions / Motorola.
- 4.177 The first of these is that the parties were negotiating the continued operation of the Airwave Network and the price after the end of the original period of the PFI Agreement because ESN was (and is still) not ready to replace the Airwave Network. When ESN was procured in 2014/15 and when the parties entered into the HoTs in 2016, the expectation was that ESN would be ready by the end of the original period of the PFI Agreement. This was reflected in the timetable agreed for its delivery.³⁹⁷ This expectation had not (and has not) been met.
- 4.178 The second factor is that the Home Office and emergency services' users must have continuous and reliable access to a high-quality integrated communications network which meets their operational requirements. The network has been described by both Motorola and the Home Office as 'National Critical Infrastructure.' It provides essential services, on which lives ultimately depend, in critical situations.³⁹⁸ The Airwave Network was (and still is) the only such network available. No alternative network existed (nor exists) and no other provider was (nor is) likely to build and supply one in the uncertain period until the transition to ESN.
- 4.179 The third factor was (and is) that the asset transfer provisions in the PFI Agreement have failed to provide certainty as to the transferable assets and their valuation (see paragraphs 4.58 to 4.95 above). They had not (and have not) resulted in the transfer of the assets to the Home Office (or a third party) and Airwave Solutions continued (and continues) to own them.

³⁹⁶ We note in this regard Motorola's submissions (for example [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 1.19) that we have not taken, '.... proper account, in considering what a well-functioning market would deliver, of the Airwave pricing offer made to the Home Office in 2018. The Home Office was offered better charges in 2018 which, had they been accepted, would now, i.e. during the period that the CMA claims there are excessive profits, be yielding approximately £500 million in savings to the Home Office.' We observe that our assessment of Airwave Solutions' / Motorola's supernormal profits is substantially higher (around double) than the discount it offered the Home Office. That supports our assessment, for the reasons that follow, that the Home Office did not have bargaining power to constrain the price of the Airwave Network services to the competitive level.

³⁹⁷ If not wholly reflected in some of Motorola's internal business documents – see paragraph 3.50.

³⁹⁸ As illustrated by the concerns of the Public Accounts Committee in 2017 when there appeared to be a risk that services would be interrupted – see paragraph 4.164 and paragraphs 109–114 in part 4 of Appendix E.

Lack of competitive constraint or pressure on the price

- 4.180 The following six factors, in our judgement, demonstrate that there was (and is) a lack of constraint or pressure on the price that, in the negotiations between the parties, would result in it being set at the competitive level (enabling Airwave Solutions / Motorola to maintain it substantially above that level). They mean the Home Office had (and has) a weak bargaining position. It lacked (and lacks) credible options that would enable it to bid down the price to the level that might be expected to result from a competitive process.
- 4.181 The first of those factors derives from the fact the Home Office had (and still has) to negotiate with the incumbent monopolist which operates critical infrastructure on whose provision it is dependent.
- 4.182 The second factor derives from the critical nature of the services which meant (and means) the Home Office cannot risk (and is inhibited from the risk of) disruption or degradation to their continuous supply.
- 4.183 These two points, in our assessment, put (and continue to put) the Home Office – as the purchaser of services – in an intrinsically weaker position in any negotiations. Both parties know that the Airwave Network is critical. We observe in that context that, as we describe above and in part [4] of Appendix D, in late 2017, Airwave Solutions / Motorola indicated that it would not make the necessary investment to ensure continuity of service unless the Home Office agreed to its requests in relation to ESN.³⁹⁹ We also note that the Home Office understood that indication as a means of seeking a higher price for any extended future provision of the Airwave Network.
- 4.184 It may not even be necessary in negotiations for Airwave Solutions / Motorola to threaten to discontinue provision of a critical service on which it knows the Home Office is dependent in order to affect those negotiations. The knowledge shared by both parties is likely to influence their abilities to demand or resist terms without the need for express statements.
- 4.185 The third factor weakening the Home Office's bargaining position results from the Airwave Network's dependency on Motorola for any equipment and upgrades that may be needed for any extension in the period of its operation beyond 2019/20. This is illustrated by the following comment made in internal Home Office documents in late March 2018, before the start of the formal 2018 negotiation process:

Reflecting on our conversation yesterday, have you been made aware just how dependent we would be on Motorola even if we

³⁹⁹ We note that in its 1 August 2021 response to the CMA's proposal to make a market investigation reference, Motorola made the following statement [3<]

owned the Airwave service? All of the (aging) switch and base station kit is Motorola, plus there is a very large installed base of extremely old Motorola customer premises equipment, supporting control rooms operating over Motorola proprietary interfaces. In the user domain about 50% of the devices and all the NSS key management facilities are Motorola. The current ESN-TETRA interworking solution relies entirely on a Motorola proprietary interface between an Airwave switch and the Motorola PSCS servers and it's extremely unlikely that they would develop a new version for us in any sort of reasonable timeframe if they were not the supplier on the ESN side. I guess that whichever route we take we need to maintain a reasonable relationship with Motorola otherwise we risk being held to ransom on upgrade costs etc.⁴⁰⁰

- 4.186 The fourth relevant factor, which serves to increase Motorola's bargaining power, was (and is) [REDACTED].⁴⁰¹ As our profitability analysis indicates, that price is very advantageous to Motorola. It is accordingly disadvantageous to the Home Office. Motorola's comments in the March 2021 financial presentation to which we refer in paragraph 4.173(c) above, show it was aware of this and preparing to take it into account in the 2021 negotiations.⁴⁰²
- 4.187 Fifth, we also consider that the Home Office's weak bargaining position was (and is) exacerbated by the information asymmetry between itself and Motorola. The evidence – described in part [5] of Appendix D – demonstrates that, at least four times since 2016, the Home Office has sought more detailed information than Motorola has agreed to provide about its costs and capital expenditure.
- 4.188 Some of the evidence indicates that the lack of information transparency is liable to have distorted the outcome of the negotiations by enabling Motorola to present high capital expenditure figures:
- (a) After a meeting on 23 April 2018,⁴⁰³ as part of the 2018 negotiations, at which Motorola's capex projections were presented, Motorola's lead negotiator commented: [REDACTED]⁴⁰⁴
 - (b) Analysis carried out by Motorola in 2021, before the 2021 negotiations, showed that the actual capital expenditure in the three periods from 2019 to

⁴⁰⁰ Internal Home Office email, 27 March 2018. [REDACTED]

⁴⁰¹ Or a Deferred National Shutdown Notice. That price being both parties' outside option if they walk away from the negotiations.

⁴⁰² As we say above, the presentation noted that, [REDACTED]. Internal Motorola presentation, [REDACTED]

⁴⁰³ Email from Motorola to Home Office 24 April 2018 attaching slide presentation and spreadsheet [REDACTED]

⁴⁰⁴ Internal Motorola email, 23 April 2018. [REDACTED]

2021 was [X]%, [X]% and [X]% lower than presented to the Home Office in the 2018 negotiations.⁴⁰⁵

- (c) In the 2021 negotiations, Motorola presented to the Home Office a capex plan that supported its case for a £[X] million annual price rise. In an internal exchange about this forecast, Motorola's [X] said to its [X]...'.⁴⁰⁶

- 4.189 The sixth relevant factor weakening the Home Office's bargaining position in the 2018 and 2021 negotiations was that the transfer of the Airwave Network assets to the Home Office (and possible retendering) was not, in our judgement, a credible option. We note that, in paragraph 4.192 of our PDR, we said that, 'The Home Office did not own and could not acquire the network and so could not retender the service (and that remains the case).' We also assessed the viability of an asset transfer in paragraphs 8.93 – 8.95 of the PDR. We have considered the point further in light of the parties' submissions, particularly Motorola's, and the material it was based on, further below.
- 4.190 Our first observation in this context is that, at the time of both the 2018 and 2021 negotiations, the Home Office was aware that ESN would be delayed. Its expectation in 2018 was that the transition to the new network would be completed in December 2022 and the Airwave Network would need to continue to operate until then. Its expectation during the 2021 negotiations was that the delay would be until December 2026.⁴⁰⁷
- 4.191 There would therefore have been only a short and uncertain period in which any new operator would have been able to operate the assets, which in any event had a limited expected lifespan. That is, some proportion of the time between 2018 and 2022 and between 2021 and 2026, part of which is likely to have been consumed by Motorola and the Home Office seeking to agree the transferable assets and their valuation or, perhaps more likely, disputing those matters. We note in this context Motorola's submission described in paragraph 4.18(j) above that, in connection with the period after 2019, '.... it would make no sense to take over the assets for such a short period.'
- 4.192 Likewise, the statement it has made to us in the context of the possible divestiture of Airwave Solutions as a possible remedy to an AEC. It said that a divestiture process would inevitably take significant time to carry out, and would be 'hugely distracting' and apt to cause disruption during the Airwave Network's final years of

⁴⁰⁵ Motorola analysis, 13 April 2018 [X]. The data for 2021 was based on forecast.

⁴⁰⁶ We also note that Motorola applied a [X]% margin on capex to which a mark-up had already been applied and for which no justification was provided to the Home Office. Motorola presentation, 4 June 2021 [X]; Motorola presentation, 25 June 2021 [X]; and internal Motorola message, 3 June 2021 [X].

⁴⁰⁷ As to both dates see Table 2.2 in the [PDR](#) and the documents referred to there.

operation, even if a willing buyer could be found, given the expected short life and attendant regulatory uncertainty.⁴⁰⁸

4.193 The shortened period is likely adversely to have affected one or more of:

- (a) the number of prospective bidders in any retendering exercise (creating a risk of an insufficient number for a competitive process);
- (b) the ability of the successful bidder to recoup costs required for it to run the network (for example, of infrastructure, operational systems, staff and training, which Motorola already have in place and so would have less or no need to make); and
- (c) the bidders' ability to bid the price down to the level we might expect in a well-functioning market. Any such bidders would also have had an information asymmetry with Airwave Solutions / Motorola (for example, as to the current condition of the network and in relation to opex and capex) affecting their ability to bid competitively in any retendering process.⁴⁰⁹

4.194 Perhaps most importantly, there would be considerable (actual or perceived) operational and safety risk for the Home Office and emergency services users in any asset transfer. The network is critical infrastructure providing safety of life services. It must remain in safe, effective and high-quality use at all times. There would have needed to be (and would need to be if the assets were to be transferred now) a safe and effective transfer while the assets remained in use. Motorola's internal documents relating to the 201 negotiations show that it was conscious of this risk and referring the Home Office to it.⁴¹⁰ That risk might more readily have been mitigated where there was scope for long-term planning and implementation of an asset transfer. That, however, was not the case in the short-term circumstances in 2018 and the still relatively short-term circumstances in 2021, and the risk is one to which the Home Office is likely to have been averse.

4.195 There would also likely have been material ongoing dependencies on Motorola whether the assets transferred to the Home Office or ultimately to a third-party. The Airwave Network already makes substantial use of Motorola-sourced inputs. That reliance would likely be greater where the network assets transferred over a relatively short term and the risks to service continuity would be heightened (see previous paragraph). Either the Home Office or a third party operator may have been reluctant to be subject to such dependence on Motorola and/or the lack of

⁴⁰⁸ Motorola response to the Remedies questions dated 18 February 2022, paragraph 27. [3<]

⁴⁰⁹ Including in relation to products and services it would need to source from Motorola (see paragraphs 4.185, 4.187–4.188 and 4.195).

⁴¹⁰ See paragraph 122 in part 6 of Appendix E.

transparency over the cost of that dependence would likely have kept the price higher than in a competitive market.⁴¹¹

- 4.196 The Home Office also lacked the specialist expertise and experience to take over the assets and operate them itself (as opposed to retendering them after an asset transfer). The risk of experienced Airwave Solutions / Motorola staff departing the business prior to any TUPE transfer would also likely have added to this problem.
- 4.197 These factors are likely to have amounted to significant switching barriers or costs for the Home Office and to have given Airwave Solutions / Motorola significant incumbency advantages. Moreover, Airwave Solutions / Motorola is likely to have been aware of those barriers and advantages. The result, in our judgement, is that the transfer of the Airwave Network assets was not an option the Home Office could pursue nor credibly threaten to pursue in 2018 or 2021 so as to negotiate the price down to the competitive level.
- 4.198 In making this assessment we have taken into account Motorola's submissions that ownership of the Airwave Network assets has transferred three times with no impact on the operation of the network, most recently in 2016, when Motorola acquired Airwave Solutions and when the contract to provide the network services only had a minimum period of four years to run. Likewise, that any notion that future dependency on Motorola precludes an asset transfer is, 'without foundation,' and there are no technical or operational reasons that present obstacles to such a transfer.
- 4.199 Our judgement is that the circumstances of a mutually agreed sale / acquisition of Airwave Solutions are liable to differ materially from those in which the Home Office sought to – or sought credibly to threaten to use its right to – terminate its

⁴¹¹ We note in that regard the Home Office's comments referred to in paragraph 4.185 above. We also note Motorola's comments at Motorola's Response hearing with the CMA on 10 January 2023 where it said that, if the Airwave Network assets transferred away from Airwave Solutions there would still be a dependence on Motorola inputs and a possible competition issue (page 27) or at least additional costs in replacing those inputs. [3<]

'... you could replace the Motorola equipment with an alternative provider. There are other providers of TETRA equipment in the world. There would be a cost to doing so but that's something that could be achieved.'

'.... even though, in principle, it's possible to exchange the Motorola equipment and swap it out for someone else's, in reality, that will be most costly than keeping Motorola there and providing ongoing support for the software that facilitates the switching and so on.'

Motorola made similar comments at an earlier stage of our investigation. In commenting on the drawbacks of a divestiture of Airwave Solutions as a possible remedy to an AEC, it noted that 'Prior to the acquisition of Airwave, Motorola had for many years been a key equipment supplier to Airwave. Any hypothetical Airwave divestiture would also need to address future equipment supply.' Motorola response to the Remedies questions dated 18 February 2022, paragraph 27. [3<]

agreement with Airwave Solutions and to transfer relevant assets and contracts to itself or a third party.

- 4.200 In particular, in a mutually agreed sale / acquisition the owner of Airwave Solutions would have an incentive to put in place mechanisms that mitigated the risks identified in the paragraphs above in order to maintain the value of the assets to potential acquirers. The fact Airwave Solutions has changed ownership three times is clear evidence that relevant risks can be mitigated in those circumstances. We also note that Motorola had specific strategic reasons for its purchase of the network and aims and expectations relating to its extended operation (see, for example, paragraphs 3.50 and 4.122 and Parts 3 and 4 of Appendix E).
- 4.201 That does not imply that the position would necessarily be the same under a Home Office imposed asset transfer process. That process could be akin to a forced divestment (of relevant assets), in which the owner may well not have the same incentives – in particular where the price to be paid to the owner was uncertain but would not be expected to reflect the potential to earn monopoly profits until ESN was ready. Indeed, Motorola may well have been hostile to such a transfer in the circumstances of the 2018 and 2021 negotiations. We note that it expected to continue to provide the services at a highly profitable price, and that a Service Transfer Plan and asset valuation was not agreed (and would likely have been subject to time consuming dispute).
- 4.202 An imposed asset transfer process may also involve other additional risks over and above those that might arise in a relation to company divestment. The asset transfer process requires the relevant assets and contracts to be identified and defined, raising the possibility that arrangements which are important to the effective ongoing provision of services are missed (as happened when Airwave Solutions drew up the Service Transfer Plan when it was under Macquarie's ownership). By contrast, in a company divestment, the position would more likely be that the company should be transferred in its prevailing form as a going concern.⁴¹²
- 4.203 There is, therefore, in our view, no basis to conclude that a transfer of the network assets could safely and successfully have occurred or credibly have been threatened by the Home Office. Significantly more likely than not, such a transfer could not have occurred and the Home Office could not credibly have made that threat.
- 4.204 Our assessment is supported by the contemporaneous evidence, which we describe more fully in part [6] of Appendix D. We have already noted that the price

⁴¹² With scope questions limited to circumstances where there was clear evidence for the exclusion of parts of the business from any sale (as would be the case, for example, in relation to Pronto were the divestment of Airwave Solutions to be considered).

of the Airwave Network services remained at essentially the same level after the 2018 and 2021 negotiations as in the original period of the PFI Agreement. That itself is suggestive that the Home Office lacked bargaining power.

- 4.205 We also note in particular that none of Airwave Solutions' / Motorola's documents relating to, or from around the time of, the negotiations that we have examined refer to the Home Office's ability to acquire the assets or the risk of it doing so. Had they seen that as a credible possibility, we would have expected the documents and approach to the negotiations to reflect that. Instead, they support the opposite conclusion: that a transfer of the assets was not a credible possibility and Motorola was not concerned about it (and in the 2021 negotiations sought a price increase, rather than sought to mitigate the threat of an asset transfer by offering a price reduction).
- 4.206 The evidence in relevant Home Office documents also supports our assessment, notwithstanding Motorola's submission that, '... the contemporaneous evidence makes clear that the Home Office never exhibited any real effort or even desire to apply [the asset transfer provisions].'⁴¹³ That evidence, which is also described in part [6] of Appendix D, shows, in our view that:
- (a) The Home Office was aware of the shortcomings of the PFI Agreement's asset transfer provisions;
 - (b) in the 2018 negotiations, the Home Office expected the transition to ESN to be complete by the end of 2022 (or thereabouts), and that it therefore sought relatively short extensions of the operation of the Airwave Network in connection with which the threat of transferring the assets would not have been credible;⁴¹⁴
 - (c) in those 2018 negotiations, the Home Office concluded that:

We have highlighted all levers available on Airwave with limited success - it is hard to see how we will be able to improve their offer still further as they are the only available supplier....;⁴¹⁵
 - (d) in the 2021 negotiations, the Home Office expressly considered the transfer of the assets, both in the immediate term and as of 2026 (as to which see paragraphs 4.273 to 4.280 and section 8 of this report). However, they also show that it considered such a transfer to involve undue risk and not to be a credible option or threat that it could or should pursue.

⁴¹³ Motorola letter to the CMA, dated 2 March 2023. [§].

⁴¹⁴ The Home Office was also concerned about the ongoing dependence on Motorola, as described in paragraphs 4.185 above.

⁴¹⁵ Home Office document, 23 July 2018 [§], attached to internal Home Office email 23 July 2018 [§]

- 4.207 We have taken into account that, in relation to the 2018 negotiations, the Home Office did not actively improve its position by creating a contingency plan relating to asset transfer. Had it done so, it might have given itself a possible outside option or at least a more credible threat of one that was capable of improving its bargaining position. However, our judgement is that, even if it had done so, the Home Office would not have improved its position such that it would have constrained the price to the competitive level.
- 4.208 It is correct that in 2018, the Home Office was aware that ESN would be more significantly delayed (possibly until 2022). In the negotiations that year, Motorola offered it a 10-year extension of the PFI Agreement. These points might be taken to put the Home Office on notice of the need to make contingency plans and pursue outside options to give it negotiating leverage.
- 4.209 We also take into account, however, that, in light of our assessment of the uncertainties of the PFI Agreement's asset transfer provisions (in paragraphs 4.58 to 4.95 above), any attempts the Home Office made to assert its rights to a Service Transfer Plan setting out the transferable assets and the transfer price are liable to have resulted in a time-consuming dispute. It is also plausible to suppose that the same factors as described in paragraphs 4.90 to 4.202 above would have informed (i) any assessment the Home Office might have made of the credibility of asset transfer as an option and (ii) the choices it would have made.
- 4.210 In particular, the Home Office is likely to have been averse to the risks to the continuity of service of the transfer of critical national infrastructure assets in live operation (which risk Motorola was highlighting to it) and risks of a loss of Motorola expertise (which the Home Office was alluding to in its internal documents), in circumstances where it is unlikely to have been able to assess confidently the benefits of switching (which point the June 2018 Airwave contingency plan referred to in part 6 of Appendix E expressly notes). These points would have weakened its bargaining position.
- 4.211 Moreover, it is apparent from the Home Office's documents relating to the 2021 negotiations that it did consider asset transfer as a contingency to improve its bargaining position in those negotiations. However, it reached the conclusions referred to in paragraph 4.206 above. Given that the circumstances in 2018 were comparable to those in 2021, it is reasonable to assess that the Home Office would have reached a similar conclusion at both times.

Assessment

- 4.212 Taking account of all the factors in paragraphs 4.145 to 4.211 above, we conclude that, in the 2018 and 2021 negotiations, the Home Office lacked credible outside options and did not have countervailing buyer power. Airwave Solutions / Motorola had market power. ESN was not (and still is not) ready to replace the Airwave

Network. The Home Office and emergency service users were (and are) dependent on the supply of that network by its owner, Airwave Solutions / Motorola. The parties were negotiating in the context of a default price that is highly advantageous to Airwave Solutions / Motorola (and which, owing to its lack of credible options and countervailing buyer power, the Home Office has little scope to constrain), and there was (and is) a significant asymmetry of information between them.

Evidence of parties' perceptions of their relative bargaining positions

- 4.213 We can also make observations based on the parties' perceptions of their relative bargaining positions. Documents prepared by Airwave Solutions / Motorola and the Home Office set out high-level internal statements reflecting their perceptions of those positions. In other words, they offer an insight into Airwave Solutions' / Motorola's market power and the extent of the Home Office's buyer power. In our view, they are consistent with our assessment of the parties' positions in the preceding paragraphs.
- 4.214 Airwave Solutions' / Motorola's perception of their position is described in the internal business documents (the 2019 and 2020 statutory impairment assessments) quoted in paragraphs 4.150 and 4.173 above, and paragraphs 124 and 126 in part 6 of Appendix E.⁴¹⁶ Again, we note their demonstration of Airwave Solutions' / Motorola's awareness that the price of Airwave Network Services would be subject to negotiations in which they had no competitors and the Home Office had no credible outside options.⁴¹⁷ Those statutory impairment assessments are consistent with the Home Office's perception of its position, as illustrated by the document quoted in paragraph 4.206 above.⁴¹⁸
- 4.215 The parties' statements in these documents are, in our view, very important for two (linked) reasons:
- (a) First, and notwithstanding Motorola's submission that the Home Office has monopsony power, they offer clear indications that, in negotiations about the continued provision of the Airwave Network after 2019, the Home Office lacked outside options and had limited buyer power, while Airwave Solutions / Motorola held market power.
 - (b) Second, both parties were aware of the others' position. That is liable to have materially affected their approach to, and the outcome of, negotiations. Airwave Solutions and Motorola were aware they could offer terms the Home Office would have no option but to accept.

⁴¹⁶ Impairment assessments prepared to support its annual financial statements.

⁴¹⁷ Motorola impairment assessments, 31 December 2019 and 31 December 2020. [REDACTED] and [REDACTED]

⁴¹⁸ Home Office document, 23 July 2018 [REDACTED], attached to internal Home Office email 23 July 2018 [REDACTED]

Recent discussions between Motorola and the Home Office

4.216 Motorola notified us on 7 September 2022⁴¹⁹ that it had made an offer to the Home Office in July 2022 to extend the contract under which the Airwave Network services are provided. The extension would have been for up to ten years, subject to break clauses the Home Office could exercise by giving notice, in exchange for price discounts that Motorola said were worth up to £513 million, comprising:

- (a) £31 million (10%) for 2023;
- (b) £46 million (15%) a year for 2024 – 2027; and
- (c) £61 million (20%) a year for 2028 – 2032.

Motorola told us that the Home Office has not accepted the offer, and the Home Office has confirmed this.

4.217 The [REDACTED] It was referred to in two documents put to the Home Office by Motorola: (i) [REDACTED]; and (ii) [REDACTED].⁴²⁰

4.218 The first document was described as containing [REDACTED] that, ‘...[REDACTED]’ Under the [REDACTED] involvement [REDACTED].’

4.219 The second document was put to the Home Office on the basis of some [REDACTED] (Motorola’s **emphasis**):

[REDACTED].⁴²¹

➤ [REDACTED]

➤ [REDACTED]

➤ [REDACTED]

4.220 The second document also sets out some ‘[REDACTED]’ on which the [REDACTED] was based. Those included that, ‘[REDACTED].’

4.221 When notifying us of the offer, Motorola submitted that it should be viewed in the context of the points described in more detail in paragraphs 4.231 to 4.245 below. In particular, that it cannot compete for its customers, that the Airwave agreement is a contract in ‘run-off’, that it cannot raise prices and any market power it has is transitory and outside its control. It said the offer, and the Home Office’s non-

⁴¹⁹ Motorola Update Note to the CMA, 7 September 2022. [REDACTED]

⁴²⁰ Motorola presentation to the Home Office, July 2022 [REDACTED] and Motorola presentation to the Home Office, July 2022 [REDACTED].

⁴²¹ [REDACTED].

acceptance of it, shows that Motorola / Airwave Solutions do not enjoy market power or have a privileged bargaining position.

4.222 The Home Office has told us⁴²² that it did not accept the offer because, amongst other reasons:

(a) [REDACTED]

(b) [REDACTED]

(c) [REDACTED]

4.223 We have seen from the correspondence in which the Home Office responded to the offer that it told Motorola that:⁴²³

[REDACTED]

4.224 We have considered the details of the [REDACTED] the parties' submissions and comments on it and its implications for our competition assessment. Our view is that the [REDACTED] does not indicate that Airwave Solutions / Motorola lacks market power or that the Home Office has countervailing buyer power.

4.225 Our assessment is that Airwave Solutions' / Motorola's market power enables it currently to set a price above the competitive level to such an extent that it generates supernormal profits of around £1.27 billion in the years 2020 to 2029. This is equivalent to charging almost £200 million per year more than we would expect to see in a well-functioning market.⁴²⁴ Motorola's offer would reduce the price by between £31 million and £61 million a year.

4.226 In other words, even [REDACTED] the price would be set many millions of pounds above the price we might expect in a competitive market. It appears to us that the Home Office had the choice of a bad deal, relative to the price we might expect in a competitive market, or a worse one (the status quo). It did not have options liable to constrain the price to the competitive level. That appears to us to be consistent with the existence of market power on the part of Airwave Solutions / Motorola, rather than evidence of its absence.

4.227 Neither in our assessment does the Home Office's [REDACTED] on the strength of our possible intervention indicate buyer power. In a well-functioning market the CMA would not be a factor providing a party with an outside option in commercial negotiations. The possibility of the CMA imposing a price control to remedy an

⁴²² Home Office response to Q3 of RFI dated 13 September 2022. [REDACTED]

⁴²³ Letter from Home Office to Motorola, 3 August 2022. [REDACTED]

⁴²⁴ See our profitability analysis in section 6 of this report.

AEC is not what we would expect to give a party options and to be the basis on which we would observe that a market is working well.

- 4.228 Putting these points another way, Motorola's [X] and the Home Office's [X] might indicate a lack of market power or the presence of countervailing buyer power if either: (i) it set the price at a competitive level; or (ii) the Home Office could reject on the basis that it could induce [X] even in the absence of CMA intervention. Neither condition is met here.
- 4.229 We also observe that Motorola linked [X] to extend the Airwave contractual arrangements to the resolution of its position in the delivery of ESN. We note that [X] says that Motorola's [X] would cause it a 'material economic cost' but it would be prepared to agree terms for a [X]. That, in our assessment, is an indication that Motorola would absorb the cost in relation to [X], and agree [X], only if the Home Office agrees a price [X] several hundred million pounds greater than the competitive level. That too appears to us to be consistent with its market power in relation to the Airwave Network.
- 4.230 The making of [X] by Motorola and its [X] by the Home Office, therefore, supports our assessment of Airwave Solutions' / Motorola's market power and the Home Office's lack of buyer power.

Motorola's submissions on the negotiations and the recent discussions

- 4.231 We note above that Motorola has made submissions that it and Airwave Solutions cannot and do not have market power. It has also submitted that the Home Office has significant bargaining power as a monopsonist. It has cited examples of where the Home Office was said to have used its monopsony power. Motorola said, as we have noted above, that the only 'negotiations' between the parties since 2016 were Home Office unilateral demands for *ex gratia* discounts on a previously agreed price.
- 4.232 We have assessed in the preceding paragraphs matters we consider relevant to the setting and maintaining of the price for the provision of the Airwave Network services for the period from 2020. In doing so, we have considered whether Airwave Solutions / Motorola had (and continues to have) market power and whether, as Motorola submitted, the Home Office had (and has) countervailing buyer power. We also make the following further observations on Motorola's submissions.
- 4.233 Motorola has also submitted that: (i) it / Airwave Solutions cannot have market power in respect of the Airwave Network because it cannot compete for its customers, who are being removed by the Home Office's procurement of ESN; (ii) the contract under which the Airwave Network is provided is a contract in 'run-off'

and the provision of the network is 'simply' the execution of a contract on agreed terms; and (iii) that any market power it has is transitory and outside its control.

- 4.234 For the reasons set out in this section 4 (and in section 3 of this report), we regard the negotiations of the price for the continued operation of the Airwave Network as price-setting discussions that take place instead of the competitive process we would expect in a well-functioning market where the Home Office had alternative options. For the reasons we find in this section of this report, Airwave Solutions / Motorola has market power and its customers are captive for the time being and until ESN or alternative competitive arrangements (or arrangements to similar effect) are in place.
- 4.235 We observe that Airwave Solutions' / Motorola's market power in respect of the Airwave Network is limited in time in that when ESN, or alternative competitive arrangements (or arrangements to similar effect), replace the current operation of the Airwave Network, that market power would cease to have effect. That, however, is not determinative of market power now.
- 4.236 Rather, what is determinative is whether there are features of the market that prevent, restrict or distort competition now and on a forward looking basis. In this case, for the reasons we have set out, we find that there are such features. They are likely to exist until ESN or alternative competitive arrangements (or arrangements to similar effect) are in place. That is, until 2026 at the earliest, likely until 2029 and possibly longer.
- 4.237 Whether or not the existence of market power is within Motorola's control is not, in our view, to the point. Market power may exist as a result of supplier behaviour but equally because of factors entirely independent of suppliers such as market structure or customer behaviour. The question is whether there are features of the market (however they may arise) that prevent, restrict or distort competition. That is what we have assessed.
- 4.238 Motorola has also submitted that it and Airwave Solutions cannot have market power in respect of the Airwave Network because it is not, and has not been, in a position to raise prices.⁴²⁵ We note that it cannot raise prices for the provision of the network services from 2020 in that there is a default price agreed (pursuant to the HoTs) where the Home Office serves a National Shutdown Notice⁴²⁶ extending the period of operation of the Airwave Network. That price would apply absent further negotiation and agreement. However, that does not mean that the price is at a competitive level.

⁴²⁵ Other, we note, than indexation.

⁴²⁶ Or a Deferred National Shutdown Notice.

- 4.239 Moreover, as we find, the price is subject to negotiation and in practice negotiations have occurred. In those negotiations, for the reasons we set out in this section, the Home Office has no alternatives and Motorola can maintain the price substantially above the level we might expect in a competitive market. That in our view indicates market power. That the price is not higher does not preclude the existence of such power.
- 4.240 As to the Home Office's position, Motorola has submitted that it has monopsony power and that such power is demonstrated by its refusal to make payments due under contracts with Airwave Solutions and with Motorola in relation to ESN. We note that if payments are disputed this means a party is asserting its perceived contractual rights. Asserting such rights is something even parties without countervailing bargaining power may be expected to do. In our assessment, those matters have no bearing on the question of whether, in the negotiations in which the price of the provision of the Airwave Network is now set, the Home Office has alternative options and buyer power or Airwave Solutions / Motorola has market power.
- 4.241 One of the specific examples cited by Motorola appears to relate to the ongoing debate between it and the Home Office about the performance of the Kodiak software that was to form part of the delivery of ESN. It does not in our assessment illustrate whether the Home Office has buyer power in the price setting negotiations for the Airwave Network. Motorola has not explained how it would do so.
- 4.242 Motorola has also submitted that the Home Office can set an unrealistic timetable for ESN, acting independently of budget constraints and industry's rejection of that timetable. We make three observations in that connection:
- (a) First, the primary focus of our investigation is whether Airwave Solutions / Motorola has market power in respect of the Airwave Network. It is not whether the Home Office exercised buyer power in the procurement of ESN.
 - (b) Second, the timetable for ESN was set in light of the impending end of the PFI Agreement and related Airwave contracts and in response to the various issues described above. The Home Office consulted Motorola and EE on increasing the timetable for the initial delivery of ESN⁴²⁷ to 24 months, but both stated that 21 months would be sufficient. The timetable might have proved to be unrealistic but it was not imposed by the Home Office on Motorola and EE but, on the contrary, was endorsed by them.⁴²⁸

⁴²⁷ After which the transition between networks would occur.

⁴²⁸ In communications to the Home Office – see paragraph 3.50

(c) Third, irrespective of whether the original timetable was ambitious or not, it has been significantly exceeded. The Home Office has not been able to exercise power to ensure the timetable was met.

4.243 Our view, accordingly, is that the ESN timetable is not probative of the Home Office's countervailing buyer power in relation to Airwave Solutions' services or indicative that it had such power.

4.244 A further submission Motorola has made is that the Home Office's monopsony power was manifested in its obstructive behaviour towards Motorola's ESN delivery efforts after October 2020. In particular, the obstruction of the implementation of a [X] plan. Again, it is unclear how this is relevant to the question of Home Office buyer power (and Airwave Solutions' / Motorola's market power) in relation to the services provided by the Airwave Network.

4.245 On these bases, we do not agree with Motorola's submissions that Airwave Solutions / Motorola do not have market power or that the Home Office has buyer power.

Benchmarking

4.246 We have also considered whether the price benchmarking provisions in the PFI Agreement and service contracts effectively constrain the price at which the Airwave Network and services are provided. This is relevant because those provisions may operate to address competition concerns that otherwise arise.

4.247 Our assessment is that there are weaknesses in the benchmarking provisions and they are unlikely to be effective in constraining prices, either through the benchmarking process itself or as a lever that can be employed in negotiations between the parties. The weaknesses include: (i) the difficulty we can observe the parties having in the original period of the PFI Agreement in establishing appropriate peers against which to compare the Airwave Network; and (ii) the scope for dispute to which the provisions gave rise. The provisions have not, in our view, operated as an effective price constraint on Airwave Solutions / Motorola in the period from 2020 and are unlikely to do so in future.

4.248 We have taken into account that, in its response to the issues statement,⁴²⁹ Motorola stated:

The Issues Statement is silent on whether the Group intends to take account of the benchmarking provisions agreed between the parties, yet this may have a significant bearing on profitability after 1 January 2023 to invoke these provisions. In addition to carefully drafted provisions on

⁴²⁹ [Motorola's response to the CMA's Issues Statement](#), 10 January 2022, paragraphs 94 and 95.

pricing, the contract with the Home Office contains an independent third-party referral process (the “Benchmarking Process”⁴³⁰) to ensure that prices are fair, which has already been used by the parties. Indeed, the Home Office preferred to suspend the Benchmarking Process in order to receive price reductions in the extension negotiations of 2016 and 2018. The Home Office was satisfied by both the price discounts and overall contractual arrangements, including additional capital investments executed in those agreements. The Benchmarking Process was used on two occasions to verify the fairness of pricing, and on both occasions the third party found no excessive pricing for the Airwave service.

The Group is therefore respectfully invited to give requisite weight to the method chosen by the well-advised parties to address questions of value for money within the contract. The benchmarking provisions are fully capable of addressing value for money. Otherwise, contractual certainty is destroyed, and that cannot be an appropriate or proportionate intervention.

4.249 We have also taken into account that, in its 15 November 2021 submission to us,⁴³¹ Motorola said:

A benchmarking study of Airwave Services undertaken by Gartner for Airwave and the Home Office dated July 2014 casts severe doubts on the idea of there being a “market rate for TETRA services”. The 2014 Gartner study goes to great length to point out the methodological difficulties encountered in trying to benchmark Airwave’s pricing and highlights the efforts that had to be taken – with full support from Airwave – to overcome these difficulties. In particular, Gartner notes that “none of the peers are delivered as PFIs and thus they all have different and unknown set up costs borne by their respective Governments or agencies and consequently different costs associated with capital.”

4.250 In its response to our PDR, Motorola re-iterated its previous submissions, but did not add to them. It said, as we have noted above, that we had misunderstood the importance of the benchmark provisions in assessing the bargain struck by the parties and the power of the Home Office to constrain pricing within the relevant contractual framework.

4.251 We have also considered the Home Office’s submissions⁴³² that the benchmarking provisions have proven to be largely ineffective and that the two attempts to use benchmarking to ensure the Airwave Network services are ‘Value for Money’ have

⁴³⁰ There is no such term in the PFI Agreement (but we believe that this refers to the benchmarking clauses that we describe further below), although the Ambulance Contract uses this terminology.

⁴³¹ [Motorola's response to the CMA's market investigation reference](#), 15 November 2021, paragraph 150.

⁴³² [Home Office submission and response to working papers](#), 24 May 2022, paragraph 78.

been unsuccessful. In particular, there were, the Home Office said, considerable challenges associated with the first benchmarking exercise undertaken by Accenture in 2008 and no effective comparison with similar services could be made. With regard to the second benchmarking exercise by Gartner in 2014, the Home Office stated that it took over two and half years to deliver any resolution and that the resolution itself involved a modest discount. Further, no consensus was reached on the correct definition of 'Value for Money', or the appropriateness of 'peers' used for comparison purposes, and as such the Gartner report had limited impact on the Home Office's ability to negotiate lower prices.

- 4.252 We have noted that the Home Office disagreed with Motorola's position that on the two occasions that the benchmarking process was used 'the third party found no excessive pricing for the Airwave service'. The Home Office reiterated its position that the Accenture benchmarking exercise was unable to reach a meaningful conclusion as a result of significant difficulties in conducting the comparison, and that the Gartner exercise did indicate excessive pricing, despite being 'predicated on very generous tolerances'.⁴³³
- 4.253 Appendix E sets out our understanding of relevant facts based on our review of the internal documents received from Motorola and the Home Office and sets out evidence on which we base our findings. The documents we have reviewed include:
- (a) key contractual provisions, including [redacted] of the PFI Agreement;
 - (b) the benchmarking reports produced under [redacted] of the PFI Agreement including:
 - (i) the May 2008 benchmarking report commissioned by Airwave Solutions from Accenture; and
 - (ii) the July 2014 Gartner report which the Home Office asked Airwave Solutions to commission in relation to the benchmarking of the network services it provided under PFI Agreement, to ascertain if Airwave Solutions was meeting the Value for Money commitments set out in the original contract;
 - (c) internal emails and email exchanges involving Motorola and Home Office staff (and, in relation to the Gartner report, this included exchanges between the Home Office and Motorola in relation to application of the recommendations made in the report and the subsequent dispute over these recommendations); and

⁴³³ [Home Office submission and response to working papers](#), 24 May 2022, paragraph 94.

(d) documents relating to the role the benchmarking provisions played in the negotiations between the parties in 2016, 2018 and 2021.

- 4.254 There is, in our assessment, some but limited evidence of the effectiveness of the benchmarking provisions as a price constraint and a source of leverage for the Home Office in negotiations. That derives from two sources.
- 4.255 First, Motorola's internal documents indicate that the waiving of the benchmarking provisions was an objective that it had from the outset of the 2016 change of control negotiations (that led to the HoTs). In the 2018 negotiations, Motorola again sought (successfully) to extend the waiver of the benchmarking provisions. In 2021, it asked for the benchmarking rights to be further waived until 1 January 2027, but the Home Office refused (meaning the provisions apply from 2023).⁴³⁴
- 4.256 Second, Motorola gave the Home Office a £[X] million credit (comprising six instalments between 31 March 2016 and 31 December 2019: one of £[X] million, one of £[X] million and four of £[X] million) in settlement of a benchmarking dispute in 2016 and the Home Office agreed not to apply the benchmarking provisions before 1 January 2021. In the 2018 negotiations, Motorola agreed to discounts on the Airwave Network service charge (price) and to extend the £[X] million annual credit payments to the Home Office until December 2022 and, amongst other things, the waiver of the benchmarking provisions in the PFI Agreement and police services contracts was extended to 1 January 2023.
- 4.257 The amounts that the Home Office secured in 2016 appear to have accounted for around [X]% of Airwave Solutions' core revenue in the period from 2016 to 2019. The £[X] million discount ongoing to December 2022 appears to be equivalent to around [X]% of the total charges for police forces to use the network.⁴³⁵
- 4.258 However, while the above points indicate that the benchmarking provisions had some effect on pricing, that does not necessarily imply that they are liable to constrain the price all the way down to the level that might be expected in a competitive market. The evidence suggests that Motorola's concerns were driven to a significant extent by: (i) the impact of an open benchmarking dispute on its prospective relationship with the Home Office (at least in 2016); and (ii) the possibility of further disputes in future and the consequent lack of certainty that created in terms of the value of the business (and the acquisition price). It does not follow that the provisions would, or would likely, have the effect of remedying the material imbalance in the parties' bargaining positions (as opposed to having a relatively modest effect, if any, on the price).

⁴³⁴ Letter from Motorola to the Home Office, 3 December 2021. [X]

⁴³⁵ Email from Motorola to the Home Office, 4 February 2016. [X]

- 4.259 There is also no evidence of an active trade-off being made by the Home Office involving the waiving of its right to benchmark. In the 2018 negotiations, the [%] discount the Home Office obtained appears to have been presented by Motorola as a trade-off for the reduction of the latter's potential liabilities under the DoR, rather than in return for the waiving of the right to benchmark. To the extent that there was a trade-off involving the waiving of the right to benchmarking, it may have been in return for the continuation of annual £[%] million credit agreed in 2016, but the evidence of such any trade-off is unclear. And, as far as we can tell from our review of the documents, no discount was given to some users of the network even though they also waived their right to benchmarking (for example, it does not appear that a discount was given to the DHSC in return for the waiver of its right to benchmark Bundle 1 services).
- 4.260 Moreover, our review of the relevant contractual provisions, the Accenture and Gartner reports and the related emails indicates that the benchmarking provisions are subject to substantive and procedural weaknesses, and that they are unlikely to be effective in constraining prices to the competitive level in the period from 2020 (either through the benchmarking process itself or as a negotiation tool). These are the reasons:
- (a) The charges for services provided by Airwave Solutions are not itemised, which makes like-for-like comparisons with peer networks difficult.
 - (b) There are, as the Gartner report recognised, few, if any, appropriate peers against which to compare the Airwave Network. We note, in this regard, Motorola's opinion, as expressed by one of its senior executives in 2015, that the Gartner 'peer' methodology was 'fundamentally flawed' and capable of being 'undermined'.⁴³⁶ We note too its submissions referred to above about the methodological difficulties in benchmarking Airwave Solution's pricing and the 'severe doubts' the Gartner report cast on there being a market rate for TETRA services.
 - (c) Again as noted in the Gartner report, the funding of the Airwave Network through a PFI Agreement makes it difficult to compare the full service charges to the cost of provision of other LMR networks for public safety.⁴³⁷
 - (d) The contract clauses do not oblige Airwave Solutions to provide a detailed breakdown of costs, do not define what amounts to 'Value for Money' and do not appear to have an effective implementation process.

⁴³⁶ Internal Motorola email, 22 July 2015. [%]

⁴³⁷ The weaknesses in (b) and (c), it appears to us, are likely now to be just as, if not more, acute. There will be few if any comparator LMR networks that operate following the end of a fixed-term contract, like the PFI Agreement, but in competitive conditions.

- (e) The above issues create significant scope for dispute between the Home Office and Airwave Solutions, as illustrated by the exchanges between them in 2014 and 2015. Past experience indicates that these provisions, as drafted, create a significant risk that court action would be required if the benchmark exercise showed a significant gap between Airwave Solutions' pricing and the average price of the peer group, with the attendant lead times and risks involved.
- (f) The Home Office did not have a right to benchmark until 2023.

- 4.261 Both the Home Office and Motorola are aware of these limitations of the benchmarking provisions. That knowledge is liable significantly to weaken the Home Office's hand in any negotiation.
- 4.262 We also observe that the outcome – the level of the charges paid by the Home Office for Airwave Solutions' services⁴³⁸ – assessed in our profitability analysis is consistent with the benchmarking provisions operating only as a minor constraint on prices. That analysis suggests Airwave Solutions / Motorola will generate excess profits between 2020 and 2029 of around £1.27 billion.
- 4.263 Further, we find it difficult to reconcile the facts that we have been able to establish through our review of the evidence as described in this report with Motorola's characterisation of events that: 'The Home Office preferred to suspend the Benchmarking Process in order to receive price reductions in the extension negotiations of 2016 and 2018. The Home Office was satisfied by both the price discounts and overall contractual arrangements, including additional capital investments executed in those agreements.'⁴³⁹ Given the circumstances in which those negotiations took place and all the other factors that we regard as affecting the parties' bargaining positions, as assessed in this report, we do not regard the waiving of the benchmarking right as probative of the level of competitive constraint on the price paid.
- 4.264 Accordingly, we conclude, based on the above and our profitability analysis, that the benchmarking provisions in [redacted] of the PFI Agreement are likely to be ineffective in constraining the price of the Airwave Network in the period from 2020 to the competitive level (if, for example, the Home Office sought to commission a benchmarking study from 1 January 2023 onwards or threatened to do so).

⁴³⁸ Including the £[redacted] million annual discount relating to the waiving of the benchmarking right obtained in 2016 and extended to December 2022 as part of the 2018 negotiations.

⁴³⁹ [Motorola's response to the CMA's Issues Statement](#), 10 January 2022.

Duration of the AEC

4.265 Motorola made submissions following the PDR which mainly go to the issue of remedies and are considered further in section 8 of this report. The submissions also, however, relate to the duration of any AEC and we therefore consider them here too. The Home Office made submissions relating to the same subject and, at its hearings with us, gave evidence about the likely date of the completion of the transition from the Airwave Network to ESN. We have considered all these submissions and make the judgement, explained below, that the AEC we identify will continue until 2026 and likely until 2029 (and possibly longer).

4.266 Motorola's submissions⁴⁴⁰ included that:

- (a) as the termination date for the Airwave Network is now set as 31 December 2026, with the Home Office having only a limited right to extend the PFI Agreement further, there is no fundamental reason why the Home Office should not be expected to reprocure a mobile communications network service for after that date;⁴⁴¹
- (b) if the Home Office decides on a course that requires the use of the Airwave Network after 2026, it could re-tender for this service or negotiate a new contract with Airwave Solutions for that period, with the outside option of re-tendering were it unhappy with the outcome of any negotiation;⁴⁴²
- (c) there is no 'process' barrier to the transfer of the relevant assets that would prevent these possibilities;⁴⁴³
- (d) the only reason why the market could not work well in the future would be if the Home Office refused to conduct an appropriate competitive tender; and⁴⁴⁴
- (e) UK procurement rules, in the Public Contracts Regulations 2015, require that contracting public authorities procure contracts in accordance with those rules, and would be met by a competitive tender process for the period after 2026.⁴⁴⁵

4.267 The Home Office's submissions included that:

⁴⁴⁰ More fully described in Section 8.

⁴⁴¹ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 1.11. and Motorola's letter of 2 March 2023 to the CMA, [3<]

⁴⁴² [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 5.3.

⁴⁴³ Motorola's letter of 2 March 2023 to the CMA, [3<]

⁴⁴⁴ Motorola's letter of 2 March 2023 to the CMA, [3<]

⁴⁴⁵ Although it did not make any detailed submissions of an alleged breach of procurement law. Motorola's letter of 2 March 2023 to the CMA, [3<]

- (a) Motorola's submission that the PFI Agreement will end in 2026 is misleading;⁴⁴⁶
- (b) the Airwave Network National Shutdown Date is currently 31 December 2026, but it will need to be put back to a later date;
- (c) the Airwave Network will likely be needed well into the second half of the current decade, potentially to 2029, or longer;⁴⁴⁷ and
- (d) it put the possibility that the Airwave Network would be required until 2029 at around 80%.⁴⁴⁸

4.268 These submissions could be understood as being about the duration of any distortion to competition. That is, in Motorola's view, that the distortion will not last beyond 2026 because the requirements of procurement law require a competitive tendering and/or that such an exercise is a credible possibility; and, in the Home Office's, that it will likely continue to be dependent on the provision of the Airwave Network, without credible options to constrain the price, until 2029.

4.269 We have considered the submissions in that light. We have also considered documentary evidence obtained from the Home Office about its assessment of the transfer of the Airwave Network assets, or taking the Airwave Network service 'in-house,' from 2026. We put that evidence to Motorola for its comments too (and in response it made some of the submissions referred to above). Similarly, we put to the Home Office Motorola's submission that UK procurement law would require a competitive tendering in 2026, not the extension of the PFI Agreement.

Assessment

4.270 We have had regard to each of the following points.

4.271 First, the operation of the Airwave Network on its current terms will continue until 2026. The Home Office has no alternative. A replacement network, such as ESN, is unlikely to be ready and able to replace the Airwave Network before 2029.

4.272 Second, in relation to the extension of the PFI Agreement, we note that, as set out in Appendix C, under the HoTs the Home Office has the contractual right to serve a Deferred National Shutdown Notice extending the operation of the Airwave Network. We also note that the Home Office has already extended the PFI Agreement both by agreement with Airwave Solutions / Motorola in 2018 and by serving a National Shutdown Notice in 2021. We understand from the Home Office

⁴⁴⁶ [Home Office's submission responding to Motorola's 'Why a Charge Control is not the Answer' Submission](#), 16 February 2023, paragraph 15.

⁴⁴⁷ [Home Office's submission responding to Motorola's 'Why a Charge Control is not the Answer' Submission](#), 16 February 2023, paragraph 15.

⁴⁴⁸ Home Office hearing with the CMA, 2 March 2022, [3<]

that its assessment is that the service of a further notice, deferring the National Shutdown Date in accordance with contractual provisions and thereby extending the period of the agreement, would be consistent with procurement law.⁴⁴⁹

- 4.273 Third, there is mixed evidence in the Home Office documents relating to the transfer of the network assets after 2026. It nonetheless shows that the Home Office has considered such a transfer and, on balance, the evidence supports a judgement that such a transfer (or a threat of such a transfer) is not a credible option for the Home Office.
- 4.274 On one hand, the Home Office's 'Negotiation Playbook' for the 2021 negotiations assessed the acquisition of the Airwave Network assets from 2026 as an option it should 'take forwards'.⁴⁵⁰ Additionally, a Home Office Airwave Negotiation Strategy document (Draft v0.5) dated January 2022 refers to the Home Office's contractual right to acquire the assets and, in the context of a negotiation strategy, refers to the point as one of 'high' priority and importance.⁴⁵¹
- 4.275 We also understand from the Home Office⁴⁵² that in November 2021 the Cabinet Office required the Home Office to produce a 'High-level priced options appraisal for an option to bring the Airwave service in-house.' The April 2022 version of that appraisal document made the initial assessment that, '.... if Airwave is required beyond the end of 2029 then it might be worth considering the option of bringing the Airwave service in-house.'⁴⁵³
- 4.276 On the other hand, the same documents assess a number of difficulties with the transfer of the assets and apply material qualifications to the positive aspects of the analysis they contain. The 2021 Negotiation Playbook describes the transfer of the assets from 2026 as 'contractually difficult,' 'unpalatable operationally,' and 'difficult to implement.' It also records doubts as to the credibility of any threat to use the asset transfer provisions and says 'threat of in-sourcing (questionable)' and questions 'Is it a threat? How realistic is the threat?'
- 4.277 The April 2022 high-level options document, meanwhile, contained only a preliminary assessment of what further appraisal of certain options might be worth undertaking. In particular, it said that if it were known that the Airwave Network would be required after 2029 taking the network in-house 'might be worth considering.' The document also noted that how long the Airwave Network may be required after 2026 is unknown (and will not be known until further ESN

⁴⁴⁹ Home Office response to the CMA, 13 March 2023.

⁴⁵⁰ Home Office internal document, June 2021. [June 2021 Home Office Negotiation Playbook for Motorola Airwave and ESN \(Q30\(a\)\(vi\)\).pptx](#)

⁴⁵¹ Home Office internal document, January 2022. [2022-01-17 Negotiation Strategy v0.5.pptx](#)

⁴⁵² Home Office response to RFI, 3 January 2023.

⁴⁵³ Home Office internal document, April 2022. [ESMCP - High-level initial priced opt.docx](#)

procurement is complete), precluding an assessment of the viability of taking the Airwave assets in-house.

- 4.278 The same document also noted other practical difficulties with a transfer of the assets or in-housing of the service to the Home Office:

.... this service is unique. It is not something that was originally outsourced that can easily be transferred back into a specific department like certain IT services. It is a service that would not fit within the existing Home Office structure ..

... the actual feasibility of bringing the service in house is even more important HMG has no experience of running a network, even one like Airwave that has circa 300,000 users. It is not in the business of running major mission critical networks so it doesn't have the people with the necessary expertise, it doesn't really have any understanding of the processes and procedures, the know-how, that is required to run and maintain the network and the assets / accommodation that underpin Airwave. HMG would therefore be reliant on acquiring all of these from Motorola or some other external source. It is possible that many of the people involved in the day to day running of Airwave in Motorola may not wish to move into the public sector, if an acquisition was chosen as the preferred option by HMG. A lot of very highly experienced and knowledgeable people could therefore be lost and could be difficult to replace.

- 4.279 The document further noted that no assessment had yet been carried out from, '... a technical and operational perspective to see whether it is even possible to bring this in-house under any deal ...' A final observation was that, 'One further consideration to bear in mind is that producing a detailed and comprehensive priced options appraisal is made more challenging due to the absence of any detailed costings for Airwave, particularly opex and capex...'.

4.280 On balance, therefore, we judge the evidence to be consistent with that relating to the transfer of the Airwave Network assets at earlier stages (eg in the context of the 2021 negotiations). It suggests, more likely than not in our view, that the transfer of the Airwave Network assets from 2026 is not an option the Home Office could credibly pursue or threaten.

4.281 Rather, for similar reasons to those that applied in 2018 and 2021, as set out above, the Home Office is likely to continue to be reliant on the operation of the Airwave Network by Airwave Solutions until (at least) 2029. It will not have options that would enable it to negotiate the price down to the competitive level in the period between 2026 and 2029.

4.282 For example:

- (a) the Home Office will continue to require safe and high-quality uninterrupted access to the Airwave Network (with no alternative network, such as ESN, likely to be available before 2029);
- (b) there is still no complete and workable Service Transfer Plan for the Airwave Network (and that remains a matter open to uncertainty and time-consuming dispute);
- (c) the time period for any in-housing or retendering of the assets will remain relatively short and uncertain, and would likely adversely affect one or more of the number of prospective bidders in any retendering exercise, their ability to bid the price down to a competitive level and/or to recoup any necessary costs in running the network for a short period between 2026 and 2029;
- (d) there would be a risk of skilled staff leaving the Airwave business ahead of any transfer;
- (e) there would still likely be information imbalances that would exist between Motorola and the Home Office and any prospective rival bidders in any post-asset transfer retendering; and
- (f) there would likely continue be ongoing reliance for inputs to the network from Motorola (owing to the current level of reliance and the risks in the transfer of the assets to the Home Office or a third party).

4.283 The above factors are, in our judgement, likely to continue to operate as material incumbency advantages for Airwave Solutions / Motorola and material switching costs or barriers for the Home Office. The former's market power and the latter's weak bargaining position, and the distortion of competition, are likely to persist until (at least) 2029.

4.284 In making our assessment we have also taken into account that, in its response to the PDR, the Home Office said that, should Motorola 'take more aggressive action' in response to the introduction of a charge control, it may be necessary for the Home Office – 'as a last resort and only if all else fails' – to seek to terminate the Airwave Network, to acquire the transferable assets, and tender the running of the network to a third party.⁴⁵⁴ The Home Office submitted that we should consider a remedy to that effect. We do not regard this as inconsistent with our judgement that the AEC we have identified will continue until 2026, likely until 2029 and possibly longer. We understand the submission as a contention that the distortion of competition would continue and that we should address it.

⁴⁵⁴ [Home Office's response to the CMA's Provisional Decision Report](#), 22 November 2022, paragraph 1.15.

Concluding comments

- 4.285 The market for the supply of communications network services for public safety has not, in our assessment, developed as we might expect in a well-functioning market. Over the lifetime of the PFI Agreement the Home Office's options have narrowed (or did not materialise), features of the market have developed that prevent, restrict or distort competition and Airwave Solutions / Motorola has unilateral market power.
- 4.286 In a well-functioning market we would expect the arrangements under the PFI Agreement to have been replaced at, or close to, the end of the original period of that agreement by either:
- (a) the replacement of the Airwave Network with a competitively priced new and enhanced service; or
 - (b) a competitively priced continuation of the operation of the existing network.
- 4.287 That has not happened, however. While the terms of the PFI Agreement might have been expected to constrain the price of the Airwave Network in the original fixed period, they no longer, in our view, do so. The price is set (or maintained) in negotiations in which the Home Office lacks alternative options and Airwave Solutions / Motorola has market power. Competition in the market for the supply of communications network services for public safety is, in our judgement, prevented, restricted or distorted because:
- (a) The Airwave Network is a critical piece of infrastructure on which the emergency services in Great Britain, and ultimately lives, depend.
 - (b) The Airwave Network is the only network of its kind in Great Britain and is provided by a monopolist. No other such networks exist nor are they likely to be constructed and ready for use before ESN (or another replacement network) is able to replace it.
 - (c) The Airwave Network assets have not transferred to the Home Office under the terms of the PFI Agreement, Airwave Solutions still owns them (and the related business) and the transfer of those assets to the Home Office and their retendering is not a credible option that the Home Office could either pursue or threaten to pursue.
 - (d) The Home Office has tendered and contracted for a replacement network – ESN – but it is taking much longer than anticipated to replace the Airwave Network. It will not be ready to replace the Airwave Network until at least 2026, [X].

- (e) The Home Office and the emergency services in Great Britain are locked in with the incumbent supplier of communications network services – Airwave Solutions (and Motorola) – beyond the period over which its prices were, or should have been, constrained by the terms of the PFI Agreement (and Airwave Solutions should have recouped its investment and had the chance to earn a reasonable return).
- (f) The Home Office has very weak bargaining power.
- (g) There is asymmetry of information between the parties.
- (h) There is a lack of effective constraints provided by the terms of the PFI Agreement on the price of the provision of the network after 2019, including the benchmarking provisions which are likely to be ineffective.

5. COMPETITIVE ASSESSMENT (2): MARKET FEATURES RELATING TO MOTOROLA'S DUAL ROLE AND INTERWORKING

- 5.1 This section contains our assessment of the competitive effects in relation to two issues:
- (a) Motorola's former dual role as the provider of the Airwave Network and in the delivery of ESN; and
 - (b) what is known as 'interworking' which refers to connecting two systems together to allow them to exchange data or jointly perform a function.
- 5.2 Since our assessment in the PDR, Motorola entered into an agreement with the Home Office on 19 December 2022 to exit its role in the delivery of ESN.⁴⁵⁵ Therefore, the dual role is no longer a feature of the market and so has no influence on our AEC finding.
- 5.3 We note, however, that Motorola's dual role played a role in the development of the market between 2016 and 19 December 2022, as: (i) Motorola's incentives to deliver its ESN Lot 2 obligations effectively and efficiently were potentially dulled by the substantial profits it makes from the continued operation of the Airwave Network; (ii) Motorola had the ability to act on these incentives by virtue of its central role in the delivery of ESN, and (iii) observable outcomes in the delivery of ESN were consistent with these incentives and ability as ESN has been delayed. These were relevant factors in the development of the current competitive position in which Airwave Solutions / Motorola holds unilateral market power.
- 5.4 Secondly, we consider interworking. An interworking solution is required to enable the transition from the Airwave Network to ESN (or another replacement network) and Airwave Solutions, and potentially Motorola, have a key role in delivering it.
- 5.5 The conclusions we reach in relation to interworking are:
- (a) The Home Office is dependent on Airwave Solutions and in respect of the provision of an interface that will link the Airwave Network with ESN (or other replacement network).
 - (b) Motorola and the Home Office entered into an agreement on 19 December 2022 which creates obligations on Motorola to provide an interface solution for interworking, to specified technical standards, in an agreed timeframe that is designed to ensure timely delivery of that solution, at a fixed price, with a range of ancillary obligations to support the end-to-end interworking solution

⁴⁵⁵ [Home Office and Motorola terminate £400m emergency services contract \(civilserviceworld.com\)](https://www.civilserviceworld.com/news/home-office-and-motorola-terminate-400m-emergency-services-contract).

once a third party MCPTT supplier has been procured by the Home Office (the Interface Agreement). As a result, Motorola's ability to delay and/or make more costly the transition of users from the Airwave Network to ESN (or other replacement network) is substantially mitigated by its contractual obligations.

- (c) Some residual risks remain, however, in relation to Airwave Solutions'/Motorola's ability to delay and/or make more costly the transition: were Airwave Solutions/Motorola not to perform the contract, or if the solution agreed in the contract were to not deliver an effective solution due to technical reasons. In this context, we note that Airwave Solutions' / Motorola's incentives to deliver the interface solution are limited, as they are dulled by the profits Motorola derives from its position as the owner of Airwave Solutions, the monopoly incumbent for the provision of communications network services for public safety.
- (d) We therefore consider that the continued reliance of the Home Office on Airwave Solutions / Motorola to deliver an interface solution, in circumstances where, for either technical or contractual performance reasons, an effective end to end interface solution is not delivered, strengthens the market power of Airwave Solutions and Motorola. This is because it would, if those circumstances were to arise, enable Airwave Solutions / Motorola to delay or hamper and/or make more costly the transition of users from the Airwave Network to ESN (or other replacement network).⁴⁵⁶

5.6 Accordingly, as set out below, we consider that Airwaves Solutions'/Motorola's position in relation to interworking strengthens and has the potential to prolong the unilateral market power of Airwave Solutions and Motorola described in section 4 of this report.

Dual role

5.7 In our PDR, in relation to Motorola's dual role prior to its exit from its Lot 2 obligations, we provisionally found that:

- (a) Motorola's incentives to deliver its ESN Lot 2 obligations effectively and efficiently were dulled by the substantial profits it makes from the continued operation of the Airwave Network;⁴⁵⁷

⁴⁵⁶ We refer in this section to ESN as this is the current proposed replacement for the Airwave Network. However, the same interworking concerns would arise in relation to another replacement network.

⁴⁵⁷ PDR, paragraphs 5.21–5.62 and Appendix F.

- (b) Motorola had the ability to act on such incentives by virtue of its central role in the delivery of ESN and the limited counter-incentives created by the effects of the DoR and the ESN contractual framework;⁴⁵⁸ and
- (c) observable outcomes in the delivery of ESN were consistent with such incentives and ability.⁴⁵⁹

Recent developments

- 5.8 On 19 December 2022, Motorola and the Home Office agreed to terminate Motorola's involvement in the Lot 2 contract thereby bringing Motorola's involvement in ESN to an end.
- 5.9 We noted in our PDR that, were Motorola and the Home Office to reach such an agreement, it would address our provisional concerns that were centred on Motorola's incentives and ability to delay ESN and thereby prolong the operation of the Airwave Network.

Parties' submissions

- 5.10 The parties made a number of submissions in relation to dual role in advance of the PDR. These submissions were taken account of in that report.⁴⁶⁰
- 5.11 In response to the PDR, Motorola submitted that our concerns in relation to its dual role were inconsistent with the CMA's review and clearance of Motorola's acquisition of Airwave in 2016. For example, Motorola stated that: 'When the CMA reviewed the Airwave Acquisition in 2016, the CMA found no competitive relationship between ESN and Airwave, which is inconsistent with the harm now said to arise from Motorola's 'dual role'.'⁴⁶¹ We address Motorola's submissions in relation to the 2016 merger clearance in section 4 of this report.⁴⁶²
- 5.12 In the Home Office's response to the PDR, it submitted that it agreed with our assessment regarding the dual role.⁴⁶³ The Home Office noted that, even in light of Motorola's then suggested exit from Lot 2, the 'damage is done' in terms of delays to ESN.⁴⁶⁴

⁴⁵⁸ PDR, paragraphs 5.63–5.80 and Appendix F.

⁴⁵⁹ PDR, paragraphs 5.81–5.102 and Appendix F.

⁴⁶⁰ [Home Office's response to the CMA's Provisional Decision Report](#), 22 November 2022, paragraph 2.8.

⁴⁶¹ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 2.25.

⁴⁶² PDR, paragraphs 4.20–4.24.

⁴⁶³ [Home Office's response to the CMA's Provisional Decision Report](#), 22 November 2022, paragraph 2.7.

⁴⁶⁴ [Home Office's response to the CMA's Provisional Decision Report](#), 22 November 2022, paragraph 2.8.

Conclusions on Motorola's dual role

- 5.13 The parties' agreement to terminate Motorola's involvement in the Lot 2 contract from 19 December 2022 removes Motorola's dual role. Therefore, that dual role is not a feature of the market that contributes to the AEC finding set out in this report.
- 5.14 Nonetheless, Motorola's dual role played a part in the development of the market between 2016 and 19 December 2022. We note that none of the parties' submissions in response to the PDR engaged with the substance of our provisional analysis of the position in that period. We therefore have no basis to change that assessment and find that, for the reasons set out in the PDR:
- (a) Motorola's incentives to deliver its ESN Lot 2 obligations effectively and efficiently were dulled by the substantial profits it makes from the continued operation of the Airwave Network;
 - (b) Motorola had the ability to act on these incentives by virtue of its central role in the delivery of ESN; and
 - (c) observable outcomes in the delivery of ESN were consistent with these incentives and ability as ESN has been delayed.

Interworking

- 5.15 In this subsection, we consider interworking. An interworking solution is required to enable the transition from the Airwave Network to ESN (or other replacement network) and Motorola has a key role in delivering it.
- 5.16 We examine the current market situation to understand the extent to which the Home Office is dependent on Airwave Solutions, the incumbent supplier of communications network services for public safety. We consider specifically whether such dependency creates the potential for Airwave Solutions and Motorola, as its owner, to extract a supernormal profit for the interworking solution and/or delay or hamper its delivery, thereby prolonging the operation of the Airwave Network. The subsections below set out:
- (a) The purpose of interworking and its importance to enabling the transition from the Airwave Network to ESN (or other replacement network); and
 - (b) Our assessment of the current situation in light of the Interface Agreement.⁴⁶⁵ We assess the extent to which Airwave Solutions and Motorola, as its owner, have the ability and/or incentives to extract a supernormal profit for the role it

⁴⁶⁵ [Home Office and Motorola terminate £400m emergency services contract \(civilserviceworld.com\)](https://www.civilserviceworld.com/news/home-office-and-motorola-terminate-400m-emergency-services-contract)

is required to play in facilitating an interworking solution and/or delay or hamper its delivery.

The purpose of interworking

- 5.17 Interworking is needed as part of the transition of users (ie phasing-out of the Airwave Network and the phasing-in of ESN or other replacement network). The interworking solution is intended to facilitate emergency communications between those regions which have migrated onto ESN (or other replacement network) and those which have not yet done so during the transition period, to ensure public safety.⁴⁶⁶
- 5.18 The Home Office and Motorola agree on the importance of interworking to emergency services users:
- (a) Motorola told us that ‘delivery of an interoperability solution will play a fundamental role in enabling users to transition safely with access to both communication platforms simultaneously’;⁴⁶⁷ and
 - (b) The Home Office has identified the strategic importance of interworking and reliance on Airwave Solutions to enable an end-to-end solution.⁴⁶⁸
- 5.19 An interworking solution can be delivered in a number of ways from a technical perspective:⁴⁶⁹
- (a) Standards-based, network-to-network level interworking: using international standards, once established, to interface between the Airwave Network and ESN (or other replacement network);
 - (b) Proprietary network-to-network level interworking: developed and owned by Motorola; and
 - (c) Non-network interworking: not involving full interworking between the Airwave Network and ESN (or other replacement network) but instead interconnection of the relevant services, specifically connecting (‘patching’) the audio between selected group calls on Airwave and ESN (or other replacement network) within the user organisation.⁴⁷⁰

⁴⁶⁶ [Motorola/Airwave merger decision](#), paragraph 30.

⁴⁶⁷ Motorola’s response to the CMA’s market investigation reference, 15 November 2021, paragraph 77.

⁴⁶⁸ [Home Office response to the Issues Statement](#), paragraph 26.

⁴⁶⁹ Another option is for users and vehicles to have both ESN and Airwave capability during transition. This solution is not discussed further, due to its operational and cost drawbacks.

⁴⁷⁰ This does not involve full interworking between the Airwave Network and ESN, but instead interconnects the relevant services, specifically connecting (‘patch’) the audio between selected group calls on the Airwave Network and ESN within the user organisation (Note on interworking provided to the CMA by an industry expert, May 2022).

- 5.20 The solution chosen by the Home Office in 2016 was a proprietary network-to-network solution to be delivered by Airwave Solutions.⁴⁷¹ It involves two interfaces, both of which are proprietary to Motorola. One interface is provided at the Airwave Network end and is required to support transition to ESN. The other interface is at the ESN end and is required to support the MCPTT application used within ESN, which is currently Motorola's MCPTT application, Kodiak.

The current situation

- 5.21 On 19 December 2022, Airwave Solutions and the Home Office signed the Interface Agreement, which provides for the provision of the interface in relation to the Airwave Network.⁴⁷² The Home Office will procure a third party supplier to provide the interface in relation to ESN. Together, this will enable a full interworking solution to operate.
- 5.22 In this subsection we consider the extent to which, further to the agreement reached, the Home Office's dependence on Airwave Solutions for the delivery of an interface solution creates the potential for it and Motorola, as the owner of Airwave Solutions, to extract a supernormal profit for the solution and/or delay or hamper its delivery, thereby prolonging the operation of the Airwave Network. We begin by summarising the parties' submissions in relation to the agreement before presenting our assessment on the relevant abilities and incentives.

Parties' submissions

- 5.23 Motorola submitted that it considered that the terms of the Interface Agreement provide an effective interface solution in terms of the aspects that Airwave Solutions need to provide. Motorola submitted that the agreement was 'future-proof', for example, in terms of capacity.⁴⁷³
- 5.24 Motorola said that the interface solution to be provided, while proprietary in nature, is based on tried and tested technology used in other TETRA/MCPTT deployments around the world.⁴⁷⁴ Motorola submitted that the delivery risk related to the Airwave Network interface that it has committed to supplying in the Interface Agreement is 'almost non-existent' and that Motorola had a proven track record in delivering an interface of this type, which it submitted is currently deployed in the Airwave Network.⁴⁷⁵ Rather, Motorola submitted, delivery risks in relation to the full

⁴⁷¹ The interworking solution has variously been known as, or referred to as 'Sitelink', 'Wave 7000', 'interoperability' and 'Network Interworking'.

⁴⁷² Interface Agreement, 19 December 2022. [3<]

⁴⁷³ Motorola's Response hearing with the CMA on 10 January 2023, page 67.

⁴⁷⁴ Motorola letter to CMA regarding the ESN updated, 5 January 2023, paragraph 3.

⁴⁷⁵ Motorola's Response hearing with the CMA on 10 January 2023, pages 68–69.

interworking solution lay with the uncertainties related to the procurement of the Home Office's third party MCPTT supplier.⁴⁷⁶

- 5.25 With regard to the pricing set out in the Interface Agreement, Motorola submitted that the prices were set 'pretty much at cost' and Motorola was mindful of our provisional decision to impose a cost plus based charge control. Motorola stated that it was not making any profit margin on the interface services.⁴⁷⁷
- 5.26 The Home Office stated in relation to the Interface Agreement that the obligations it contains are 'probably sufficient' to address competition concerns, noting in particular the range of ancillary obligations that the agreement places on Airwave Solutions (for example, as to testing).⁴⁷⁸
- 5.27 However, the Home Office noted that this view was predicated on an assumption that the technical solution proposed for the interface is effective in meeting the aims of facilitating a full interworking solution. The Home Office stated that although it has 'an appropriate level of confidence that the DCS port solution will meet the Home Office's needs', there remain risks that issues are discovered during development and implementation of the interface solution, for example, during integration testing.⁴⁷⁹
- 5.28 The Home Office further explained that two broad categories of risk remained in relation to the Interface Agreement: commercial/economic risks, and operational/technical risks.⁴⁸⁰ The commercial/economic risks the Home Office described related to: (i) the ongoing incentives for Motorola to delay the interface in light of the supernormal profits it earns from Airwave; (ii) the ongoing ability to delay due to the Home Office's dependence on Airwave Solutions for the interface; and (iii) the ongoing support needed from Motorola to ensure a full interworking solution is achieved once a third party MCPTT supplier is procured by the Home Office. The technical risks the Home Office described related to, for example, the solution not being delivered to time, Motorola not providing the necessary technical support to the chosen third party supplier, future changes in related technology or that certain aspects cannot be delivered to a mutually acceptable level.
- 5.29 In light of the Home Office's concerns about the effective and timely delivery of a solution, even with the Interface Agreement in place, the Home Office submitted that the interworking remedy as proposed in the PDR remains essential.⁴⁸¹

⁴⁷⁶ Motorola's Response hearing with the CMA on 10 January 2023. [§<]

⁴⁷⁷ Motorola's Response hearing with the CMA on 10 January 2023. [§<]

⁴⁷⁸ Home Office response to Question 7 of the CMA's RFI dated 22 December 2022, page 6. [§<]

⁴⁷⁹ Home Office response to Question 7 of the CMA's RFI dated 22 December 2022, pages 6–7. [§<]

⁴⁸⁰ Home Office response to the CMA's request for information dated 1 February 2023. [§<]

⁴⁸¹ [Home Office's response to the CMA's Provisional Decision Report](#), 22 November 2022, paragraph 8.45.

Our assessment

5.30 In our assessment we have considered:

- (a) Ability: Airwave Solutions' / Motorola's ability to delay and/or make more costly the provision of the interface solution in light of the terms of the Interface Agreement; and
- (b) Incentives: Airwave Solutions'/Motorola's incentives to delay and/or make more costly the provision of the interface solution.

5.31 A preliminary observation is that an interworking solution is critical for enabling the emergency services to progressively move their operations to ESN (or an alternative network) whilst not losing the ability to communicate with colleagues still using the Airwave Network. The Home Office has told us that an interworking solution is critical to managing the transition period.⁴⁸² A Motorola internal document also notes that '[X]'.⁴⁸³ It follows that any deficiencies or delays in the delivery of an effective interworking solution would have an impact on the success of the transition to ESN (or another alternative network) and the length of time the Airwave Network is required.

5.32 Relatedly, as the current ultimate owner of the Airwave Network, Motorola controls access to the Airwave Network and the development of an Airwave Network interface. Therefore, from a technical perspective, it plays a key role in ensuring interworking between the Airwave Network and potential new suppliers of MCPTT applications.

Ability

5.33 The Interface Agreement is a detailed contractual agreement setting out:

- (a) The detailed technical specifications of the interface solution to be provided;
- (b) an implementation plan with a process for mutual agreement that milestones have been delivered to the Home Office's satisfaction;
- (c) the timing of delivery of aspects of the interface, for example, [X] for the initial order of ports from the Home Office. The Interface Agreement makes provision for delays with a 'reasonable endeavours' obligation on Motorola to eliminate or mitigate delays. Motorola is also subject to financial penalties for delays that cannot be addressed.

⁴⁸² Home Office's Hearing with the CMA on 6 May 2022, [X].

⁴⁸³ Motorola internal presentation dated 14 June 2018. [X]

- (d) a range of ancillary obligations to support the delivery of the interface and of the full interworking solution once a third party provider is selected (for example, a testing plan, consultancy days, support during the live running of the end-to-end interworking solution); and
- (e) a fixed price for the service that is not linked to the time period it takes to deliver the interface solution (for example, if there are delays there is no ongoing managed service fee).⁴⁸⁴

- 5.34 While aspects of the technical specifications and implementation plans are still to be developed, Motorola submitted that 95% of the design is fixed with the remaining details to be configured during the development phase.⁴⁸⁵ If the technical solution proposed in the Interface Agreement is not effective for any reason, Motorola's obligations include that it should undertake reasonable non-material changes to the design and implementation of the solution.⁴⁸⁶
- 5.35 The Interface Agreement was negotiated following our PDR that set out the provisional decision to impose an interworking remedy.⁴⁸⁷ The terms of the Interface Agreement were improved on between the proposed draft agreement that was submitted to us by the Home Office in September 2022 and the final Interface Agreement.⁴⁸⁸ The final Interface Agreement refers to our proposed interworking remedy. Motorola submitted to us that the pricing agreed in the final Interface Agreement was an improvement on the proposed draft agreement and the prices were set to be at cost in light of our remedy proposal.⁴⁸⁹
- 5.36 We have considered the terms of the Interface Agreement and the submissions made by the parties as to the effectiveness of those terms in addressing our concerns related to Motorola's ability to delay the transition to ESN or make it more costly.
- 5.37 In our view, the Interface Agreement mitigates the majority of the ways in which Airwave / Motorola could use its position to delay by setting specific and enforceable contractual obligations on Motorola to deliver a specific solution, to an agreed standard, in a specific timeframe. In particular, we note the extent and range of the ancillary obligations on Motorola to support the effective delivery of the solution and to test and support the solution with the third party MCPTT supplier once chosen by the Home Office. We note that the terms of the Interface

⁴⁸⁴ Interface Agreement, 19 December 2022. [✂]

⁴⁸⁵ Motorola's Response hearing with the CMA on 10 January 2023, page 77.

⁴⁸⁶ Motorola's Response hearing with the CMA on 10 January 2023, page 78.

⁴⁸⁷ PDR, paragraphs 8.51–8.76.

⁴⁸⁸ The terms of the Interface Agreement were an improvement on the draft terms agreed between the parties in September 2022 and submitted to the CMA in the following respects: (i) the number of ports to be provided increased in line with HO requirements, (ii) the pricing structure moved from an ongoing managed service fee to a fixed fee arrangement removing financial incentives to delay, and (iii) a range of ancillary obligations on Motorola to provide ongoing support were introduced (as set out in paragraph 5.33(d)).

⁴⁸⁹ Motorola's Response hearing with the CMA on 10 January 2023. [✂]

Agreement improved (to the benefit of the Home Office) in negotiations after our proposed interworking remedy was published for consultation, and the parties had regard to this remedy in their negotiations.

- 5.38 In our further view, the price agreed in the Interface Agreement appears reasonable and takes into account our proposed cost plus charge control as set out in the PDR.
- 5.39 We recognise, however, that some residual risks remain that Motorola could use its position to delay the transition to ESN (or other replacement network).
- 5.40 First, we recognise that, while we would expect contractual obligations to be performed, a contractual agreement only mitigates the likelihood of detriment but does not remove or resolve our competition concerns altogether. This is because were the contract not to be performed, the Home Office would be required to enforce it and non-performance would in any event delay the provision of the interface solution. In these circumstances, the Home Office would be left without an effective solution whilst also still be dependent on Airwave Solutions / Motorola as the only supplier able to deliver an Airwave Network interface.
- 5.41 Importantly, however, we have received no evidence from the parties to suggest that the Interface Agreement would not be performed such that we should place greater weight on this risk in the circumstances of this case.
- 5.42 Second, the Interface Agreement stops short of requiring Motorola to deliver an interface solution irrespective of whether the proposed technical solution in the contract is suitable. In other words, there is a potential gap in which detriment could arise were the technical solution (through no fault of either party) not to be effective, as Motorola is not required to deliver another solution. In these circumstances, Motorola would also have the ability to set unconstrained prices for any alternative or additional technical solution that may be required, were it to provide one.
- 5.43 In appraising the size of this risk, we have taken account of the submissions made and assessed the likelihood that the technical solution may not be effective. We have received mixed evidence from the parties on the likelihood that the technical solution proposed in the Interface Agreement will not deliver an effective outcome, as set out at paragraphs 5.23 to 5.29 above.
- 5.44 In our view, the evidence suggests that there is an ongoing residual risk (as may be common with other technical design projects) that the solution may not be effective. We note that some of the risks raised by the Home Office relate to aspects of the interworking solution unrelated to the competition concerns we have in relation to Airwave Solutions' / Motorola's position; for example, some of the risks relate to connection with the third party MCPTT supplier, in respect of which the Home Office carries a commercial risk that it can mitigate through its selection

of a compatible third party supplier. Other risks raised are intrinsic in nature to a technical design project and not suggestive of particular or novel concerns that we should place greater weight on. We therefore also acknowledge this ongoing residual risk that detriment could arise if the proposed technical solution is not effective and we assess its implications in our analysis of whether to impose a remedy in section 8.

Incentives

- 5.45 We consider there are two ways in which Motorola has incentives to delay or make more costly the provision of the interface solution.
- 5.46 First, as set out in the PDR paragraph 5.34, our analysis showed that, in the period from 2019 to 2024, Airwave Solutions' profits (~£[REDACTED] billion) are expected to be more than ten times the size of its Lot 2 profits (~£[REDACTED] million). We noted in the PDR that if Motorola ceased to have any involvement in the delivery of ESN (as is now the case), these figures may understate the direct financial incentive to keep the Airwave Network operational for as long as possible, as it would no longer benefit from Lot 2 profits.
- 5.47 We consider that these profits are also liable to impact Motorola's approach to the delivery of the interface solution required to facilitate the transition of users from the Airwave Network to ESN. Motorola is deriving little or no profit from the development of the interface solution (see paragraph 5.25 above). This reinforces the view that (absent the introduction of the charge control) Motorola stands to make more from the continued operation of the Airwave Network, than it would from facilitating the transition to ESN.
- 5.48 Second, in the event that the Home Office required an additional or alternative interface solution from Airwave Solutions / Motorola, Motorola could set a price for these services that would not be constrained by the Interface Agreement, as explained in paragraph 5.42. We recognise that Airwave Solutions / Motorola may have incentives to set high prices for these services. However, we also recognise that these financial incentives are unlikely to be strong in light of the overall value of the interface solution.

Conclusion on interworking

- 5.49 The conclusions we reach in relation to interworking are:
- (a) The Home Office is dependent on Airwave Solutions and Motorola in respect of the provision of an interface that will link the Airwave Network to ESN (or other replacement network).

- (b) The Interface Agreement creates obligations on Motorola to provide an interface solution, to specified technical standards, in an agreed timeframe that, if met, will ensure timely delivery of the solution, at a fixed price, with a range of ancillary obligations to support the end-to-end interworking solution once a third party MCPTT supplier has been procured by the Home Office. As a result, Motorola's ability to delay and/or make more costly the transition of users from the Airwave Network to ESN is substantially mitigated by its contractual obligations.
- (c) Some residual risks remain, however, in relation to Motorola's ability to delay and/or make more costly the transition were Motorola not to perform the contract, or if the solution agreed in the Interface Agreement did not, due to technical reasons, deliver an effective solution. In this context, we note that Airwave Solutions' / Motorola's incentives to deliver the interface solution are limited, as they are dulled by the profits Motorola derives from its position as the owner of Airwave Solutions, the monopoly incumbent for the provision of communications network services for public safety.
- (d) Therefore, the continued reliance on Airwave Solutions / Motorola to deliver an interface solution, in circumstances where, for either technical or contractual performance reasons, an effective end to end interface solution is not delivered, strengthens the market power of Airwave Solutions and Motorola as it would, if those circumstances were to arise, enable them to delay or hamper and/or make more costly the transition of users from the Airwave Network to ESN.

5.50 Accordingly, we conclude that the position in relation to interworking is liable to strengthen and has the potential to prolong the unilateral market power of Airwave Solutions and Motorola described in section 4 of this report by enabling them to delay or hamper and/or make more costly the transition of users from the Airwave Network to ESN (or other replacement network).

6. OUTCOMES: PROFITABILITY ANALYSIS

Introduction

- 6.1 In this section, we consider the evidence of market outcomes, and particularly the profitability of Airwave Solutions. Evaluating outcomes of the competitive process in their different forms in a market – including prices and profitability, levels of innovation, product range and quality – helps the CMA determine whether there are competition issues and, if so, the extent to which customers may be harmed by them. Prices and profits are among the more readily observable and measurable outcomes and an analysis of these may be useful in quantifying the extent and nature of competition and can be helpful in measuring potential customer detriment.
- 6.2 The purpose of conducting profitability analysis is to understand whether the levels of profitability (and therefore prices) achieved by suppliers are consistent with the levels we might expect in a competitive market. If supernormal profits (ie profits above the levels that we would expect in a competitive market) have been sustained over a sufficiently long period of time, this could indicate limitations in competition.
- 6.3 The extent to which the results of profitability analysis indicate limitations in the competitive process may depend on both the size of the gap between the level of profitability and the cost of capital, and the length of the period over which the gap persists. Further, the appropriate time period over which to examine the persistence of the gap between profitability and the cost of capital may vary according to the specific market.

Approach to profitability analysis

Overarching conceptual approach

- 6.4 The analysis of profitability as a means of understanding competitive conditions in a market is based on the premise that in a competitive market firms would generally earn no more than a 'normal' rate of profit. Our Guidelines⁴⁹⁰ define a 'normal' level of profit as:

...the minimum level of profits required to keep the factors of production in their current use in the long run, ie the rate of return on capital employed for a particular business activity would be equal to the opportunity cost of capital for that activity.

⁴⁹⁰ [Guidelines](#), paragraph 116.

- 6.5 The opportunity cost of capital is the weighted average cost of capital (WACC), which investors expect for providing capital to firms undertaking the activities under investigation. This can be thought of as a market-based return on investment, to compensate investors for providing money to firms in the market.
- 6.6 The rationale for benchmarking return on capital with the opportunity cost of capital is that, in a competitive market, if firms persistently earned in excess of the return required to compensate investors for the risks taken, we would expect these high returns to attract entry and/or expansion. Such entry/expansion would serve to compete away profits in excess of the cost of capital up until the point where firms cover their total costs, including a market-based cost of capital and no more. Where firms persistently earn in excess of a normal return, this therefore signals that there may be limitations in the competitive process.
- 6.7 Our Guidelines therefore, refer to the rate of return on capital as a means of measuring profitability. Return on capital can be based on cash flows (internal rate of return (IRR)) or profits (return on capital employed (ROCE)). In this case, we have adopted the discounted cashflow approach over a given segment of an activity's lifespan (also called a truncated IRR or TIRR), given its strong theoretical basis, including that it reflects the economic principle of the time value of money.
- 6.8 We have calculated supernormal profits, ie the profits left over, after the providers of capital have been paid a market-based return on their investment.⁴⁹¹ This is calculated as the net present value (NPV) of profits when the IRR is set equal to the WACC. We calculated supernormal profits because their extent (and, consequently, any detriment to customers) is not immediately clear from a percentage gap between IRR and WACC.
- 6.9 We also compare the IRR, where possible to calculate, to the relevant WACC.⁴⁹² Our assessment of the relevant WACC for Airwave Solutions is set out in Appendix J.

Practical application of approach

- 6.10 We determine the TIRR and/or NPV by using cash inflows and outflows relating to operating activities, and the value of assets at the beginning and end of the relevant period(s). We then compare the IRR to the relevant WACC. The general principle is that all cash inflows and outflows and assets relating to the operation of the business to supply the activities under investigation should be included. In practice this means that financing costs, including any cash held for financing purposes, should be excluded.

⁴⁹¹ Supernormal profits are also called economic profits.

⁴⁹² Calculation of an IRR requires an initial cash outflow. In circumstances where there is no initial cash outflow, calculation of an IRR is not possible.

- 6.11 When estimating IRR and/or NPV, our approach is to start with accounting figures from the profit and loss account and balance sheet of the relevant activities, and then make adjustments to arrive at an economically meaningful measure of profitability. Deriving an economically meaningful measure of profitability from accounting data, in practice, usually requires adjustments to the following areas:
- (a) Identification and valuation of the capital employed by investors at the beginning and end of the relevant period(s): an assessment of economic profitability requires an estimate of the value of the capital employed by investors at the beginning and end of the relevant period(s) in order to estimate a cash outflow at the beginning of the relevant period(s) and a cash inflow at the end of the relevant period(s). In order to estimate the value of capital employed by investors, we look to ensure that all assets owned by the business have been identified and valued according to the current opportunity cost of owning the asset or the value to the business (VTB). This ordinarily requires an adjustment to one or more balance sheet values, as explained below.
 - (b) Common cost and asset allocations: where a firm undertakes other business activities, in addition to those which we are reviewing in the market investigation, and/or where there are material intercompany transactions, all costs should be recorded on an objectively justifiable basis that reflects the arm's-length value of such costs. We note that Airwave Solutions is a subsidiary of a significantly larger group, the ultimate parent company of which is Motorola Solutions, Inc., and that there are significant intercompany/intragroup transactions. As set out in paragraphs 6.104 to 6.140 below, we have reviewed a range of intragroup transactions – both operating and capital costs – and made adjustments where we have found that these have not been recorded on an arm's-length basis. We have also excluded some activities which take place within Airwave Solutions but which are not core to the Airwave Network (see paragraphs 6.19 to 6.44).
- 6.12 We set out in Appendix G further detail on the various adjustments that we have made to arrive at an economically meaningful measure of profitability based on Airwave Solutions' accounting profits.
- 6.13 In response to our profitability methodology working paper,⁴⁹³ Motorola stated⁴⁹⁴ that it generally agreed with the use of IRR measures to establish profitability instead of the ROCE approach used by the CMA in its consultation on the proposal to make a market investigation reference relating to the Airwave Network. However, it rejected the use of the truncated analysis, which it said was not

⁴⁹³ [Profitability Methodology Working Paper](#), 13 December 2021.

⁴⁹⁴ [Motorola's response to the profitability methodology working paper](#), 10 January 2022, paragraph 22.

justified in this case for the reasons set out in the section on time period under consideration (see paragraphs 6.45 to 6.62).

Key conceptual matters: assessing Airwave's profitability

6.14 As set out in paragraph 6.11, our analysis of profitability is an economic assessment of returns earned by the Airwave business. The key conceptual issues that we have considered in undertaking that economic profitability assessment include:

- (a) The scope of the business, ie the relevant activities that should be included within our analysis.
- (b) The relevant time period for our analysis;
- (c) The appropriate approach to valuing the assets employed by the business; and
- (d) The extent to which the Airwave business's cost base reflects arm's-length values.

6.15 In coming to a view on these issues, we have taken into account the specific characteristics of the Airwave Network and the context in which the network was originally procured. In particular:

- (a) As set out in detail in section 2,⁴⁹⁵ the Airwave Network was originally procured under a fixed-term PFI Agreement, which was due to end in late 2019/early 2020. That agreement set revenues in real terms for the provision of the network over the whole of the approximately twenty-year fixed term. These revenues were indexed against RPI inflation⁴⁹⁶ and gave Airwave Solutions the opportunity to not only recover its expected investment in the network but also to make a projected (nominal, pre-tax) return of [15% to 20%], ie significantly above a standard cost of capital.⁴⁹⁷
- (b) Consistent with the fixed-term nature of the agreement, the PFI Agreement⁴⁹⁸ provided Airwave Solutions with significant protections in the case of early

⁴⁹⁵ Section 2.9–2.10.

⁴⁹⁶ We note that, at the time of agreeing the PFI Agreement, RPI was the main measure of inflation used in the UK. However, during the period of the agreement, RPI lost its status as a national statistic due to its systematic over-measurement of changes in prices arising from, inter alia, its use of the Carli formula. CPI(H) is now used as the lead measure of inflation due to its superior properties. As a result, Airwave Solutions did, in fact, benefit from above (general) inflation increases in revenues over the life of the network.

⁴⁹⁷ See Appendix J for our assessment of an appropriate cost of capital for the Airwave Network. In that appendix, we estimate that a standard WACC for the Airwave Network as of 2001 was around 8-10%, compared with an expected return in the PFI model of [15% to 20%]. We note that a 'hurdle rate', which is a return above the standard cost of capital for an activity, may be appropriate where a project entails material asymmetric downside risks, ie there is a risk of making significantly less than expected without a compensating opportunity to make significantly higher returns.

⁴⁹⁸ See clauses 44.4 and 44.5 of the PFI Agreement.

termination by the Home Office. Specifically, were the Home Office to exercise its right to terminate the contract, in addition to paying compensation for the direct costs arising as a consequence of early termination, the Home Office would need to pay a further cash amount, calculated with reference to the projected expenditure and projected revenues as set out in the financial model⁴⁹⁹ such that it would restore Airwave Solutions' IRR to the figure set out in that model, ie the [15% to 20%] referred to above. In addition, Airwave Solutions was to be compensated for any loss of 'Sharer' income⁵⁰⁰ resulting from early termination by the Home Office. We note that these provisions appear to have provided protection to Airwave Solutions against all loss of value associated with early termination of the contract except insofar as Airwave Solutions' costs had been above the expected level prior to termination.

- (c) The risk that Airwave Solutions assumed under the PFI Agreement in return for this significant security was to manage the costs of building and operating the network to the agreed standards. If Airwave Solutions had managed to build and operate the network at a lower cost, it would have made higher returns than the [15% to 20%] set in the PFI Model, while higher costs would have resulted in lower returns for Airwave Solutions. As noted above, however, this [15% to 20%] was materially above a standard cost of capital for a business of this sort. We consider that this provided further downside protection to Airwave Solutions in that there was scope for its costs to be (materially) higher than expected and for it still, ex post, to make a return in line with its cost of capital.
- (d) Following Motorola's acquisition of Airwave Solutions, Motorola and the Home Office came to an agreement to extend the life of the Airwave Network beyond the original fixed-term period, initially for what was contemplated could be a short period in case the delivery of the replacement ESN network was briefly delayed, then until 2022 and then subsequently until 2026 (and we now understand that the Airwave Network is likely to be required until 2029 and possibly longer).

6.16 These factors lead us to conclude that an economically meaningful assessment of the profitability of the Airwave Network should:

- (a) be split around 2020, with a separate assessment of profitability for the period from 2001 to 2019 (PFI period), and for the period from 2020 onwards (post-PFI period). In our view, the PFI Agreement represented an economic

⁴⁹⁹ A financial model was created by BT which set out the anticipated cashflows in relation to the Airwave Network at the inception of the PFI agreement (the PFI Model) in order to establish the level of compensation in the case of early termination. Motorola told us that a copy of the model was originally placed in escrow with a third party and transferred to another third party in late 2000 / early 2001. Although this third party was unable to locate the original model, Motorola provided us with a copy of the model which had been sent to Airwave Solutions in 2009 from the National Policing Improvement Agency (NPIA). Motorola told us it had no reason to believe that the model provided to the CMA was in any way different from the copy placed in escrow.

⁵⁰⁰ In this context, we understand that 'Sharer' refers to all non-police customers of the Airwave network.

‘bargain’ between the Home Office and Airwave Solutions, wherein the latter was provided with significant, long-term certainty over revenues and downside protections in return for it assuming the costs (both capital and operating) and risks associated with building and operating the network for the period covered by the PFI Agreement; and

- (b) reflect the balance of risks and rewards in each period. In this case, we consider that the economic logic of the PFI Agreement was that in the PFI period Airwave Solutions was provided with a reasonable opportunity to recoup the initial investments in the Airwave Network, with the various protections provided to Airwave Solutions as set out above. Therefore, in any extension to that initial fixed-term period, it follows that those investments should not be remunerated again since such an outcome would result in customers paying twice for the same assets. In our view, that would not represent a reasonable benchmark for a well-functioning market. We consider in detail both the potential approaches to valuation of the assets and the evidence of their likely value under those approaches below and in Appendix I.

6.17 We make two further observations, which we explore in more detail in paragraphs 6.46, and 6.54 to 6.62, below:

- (a) First, given the large up-front capital costs associated with the network and the relatively lower on-going maintenance capital costs, we note competition for the market can only be expected to produce a competitive price over a timeframe that is clear and agreed ex ante. It cannot be expected to produce a competitive price over an indefinite period;⁵⁰¹ and
- (b) Second, whether Airwave Solutions made higher or lower returns than expected, or than its cost of capital, during the PFI period, ie between 2001 and 2019, should have no bearing on the economic assessment of its profitability in the period from 2020 onwards. We note Motorola’s arguments that the Airwave Network represents ‘extraordinary’ value to the British taxpayer because, over the 2000 to 2026 period as a whole, it has made a lower return than was originally ‘agreed’. By implication, Motorola appears to be suggesting that the Airwave Network’s current pricing is at least no higher than the competitive level. First, we note that the ‘value’ to the taxpayer depends on the price paid, not the return earned by the supplier and a comparison of the PFI Model with actual performance suggests that Airwave

⁵⁰¹ Mathematically, where there are large upfront costs and relatively lower on-going costs (including those of day-to-day operations and capex to refresh the asset base, and also a reasonable return), the longer that a contract lasts, the lower will be the average annual cost of provision. Therefore, in such a situation, competition for the market can only be expected to produce a competitive price where either the whole useful life of the asset is known at the start and contracted for on that basis, or there is periodic re-tendering and an absence of switching costs.

Solutions has earned revenues from the police forces which are at least as much as was expected when the PFI Agreement was signed.⁵⁰² Second, we consider that this argument amounts to saying that because Airwave Solutions did not make as high a return as it expected during the PFI period, it should be allowed another attempt to do so during the extension post-PFI period, and that our profitability assessment should allow for this. We disagree. We consider that the [15% to 20%] hurdle rate was i) relevant only to the PFI period, with a different cost of capital/hurdle rate relevant for the post-PFI period (ie one which reflects the risks as at that point in time), and ii) that the profitability of the post-PFI period should be assessed from the starting point of 2020, ie as an extension and not as an integral part of the original contract.

- 6.18 In the next subsection, we consider the appropriate scope of our analysis before setting out in detail our assessment of these points on time period, asset valuation and transfer pricing.

Scope of profitability analysis

Business activities

- 6.19 LMR network services for public safety are defined in our terms of reference⁵⁰³ as follows:

services provided through a secure private communications network, based on land mobile radio technology, that is used by personnel involved in public safety (namely the police, emergency and fire services, and those who need to communicate with such services) when in the field.

- 6.20 Ancillary services are defined in our terms of reference as follows:

services that are interlinked with the provision of LMR network services for public safety and for which customers have limited alternative suppliers

⁵⁰² The PFI Model projects total (nominal) revenues of £[<] billion over the period to 2020/1. This compares with actual revenues of £[<] billion over the period to the end of 2019. Part of that difference is the result of fire, ambulance and other Sharer customers joining the network. However, we understand that police revenues are currently approximately [<]% of the total, which would suggest total police revenues in the order of £[<] billion over the PFI period. The key reason for Airwave Solutions earning lower returns, therefore, is the fact that it incurred higher costs than it expected to in building and operating the network. We note that expected capex was £[<] million over the PFI period, while actual capex was around £[<] billion over that same period. (Again, part of this difference would have been the result of upgrading the network to accommodate fire, ambulance and other Sharers). This higher capex explains why Airwave Solutions' returns were lower than expected but it does not affect the 'value' of the service to the taxpayer. This was the risk Airwave Solutions assumed in signing the PFI Agreement and for which, as set out above, it was provided with material protections, including the opportunity to earn a return of [15% to 20%].

⁵⁰³ [Terms of Reference](#), 25 October 2021, reproduced in Appendix A.

including for example services such as those provided at the testing facilities for radio terminals used by LMR network public safety users.

- 6.21 The only supplier of these services in Great Britain is Airwave Solutions, and thus our profitability assessment focused on this company only.
- 6.22 We needed to make sure that the revenues and costs contained in the starting operating profit figure related only to the provision of Airwave Network services, relevant ancillary services and nothing else. Airwave Solutions' statutory financial statements include the results for all services supplied under the Airwave contracts (the PFI Agreement and Police Service Contracts, the Ambulance Contract, and the Firelink Project Agreement), as well as from contracts with the Sharer organisations.
- 6.23 These financial statements also include the results for the other services to emergency services and other organisations/firms which are provided outside the Airwave contracts, namely certain data solutions provided under separate business lines (Pronto and CCCRS, see next paragraph) and consultancy services leveraging Airwave Solutions' expertise in rolling out and running TETRA networks for emergency communications.
- 6.24 In considering which activities should be excluded, our focus has been on Pronto, CCCRS, Ambulance Bundle 2 and interworking:
- (a) Pronto is a mobile data solution and CCCRS is a control room solution. Both are software applications and are offered to police services;⁵⁰⁴
 - (b) Ambulance Bundle 2 is the supply of control room services and devices to ambulance services (procured as a separate lot from the network service) and currently outsourced to Capita;⁵⁰⁵
 - (c) interworking is the solution for connecting users of the Airwave Network and ESN during the transition period from the Airwave Network to ESN, commissioned by the Home Office as part of the agreement reflected in the Heads of Terms agreed on 17 February 2016.⁵⁰⁶
- 6.25 The following paragraphs set out Motorola's and the Home Office's submissions and our assessment of which business activities should be included and which business activities should be excluded from our profitability analysis.

⁵⁰⁴ See [Airwave Solutions Pronto brochure](#) and Motorola's response to the Financial RFI dated 16 February 2022. [3<].

⁵⁰⁵ See Appendix C, Key Airwave Solutions contracts.

⁵⁰⁶ See Section 4 and Appendix C, Key Airwave Solutions contracts.

Parties' submissions

- 6.26 Motorola and the Home Office each made submissions, on both whether certain activities that took place within Airwave Solutions should be included in our profitability analysis and, to the extent that they were excluded, the basis on which common costs should be allocated within service lines.
- 6.27 Motorola told us that we were correct to focus on Airwave Solutions' business activity, but some parts of Airwave Solutions' activities went beyond the provision of LMR network services: specifically, the two software business lines (Pronto and CCCRS) were not integral to the provision of LMR network services; they were run separately by a different leadership team and their costs and revenues were also tracked separately.⁵⁰⁷ Motorola told us that it had already made adjustments to exclude these costs and revenues from the internal rate of return (IRR) model submitted to us in August 2021 (the August Model).
- 6.28 The Home Office told us that it agreed with the exclusion of the two software business lines if it could be done in a robust manner – that is, both revenues and equivalent costs (including a share of common costs) should be removed.
- 6.29 We asked Motorola to explain whether the business activities of Ambulance Bundle 2 and interworking were related to the provision of the Airwave Network.
- (a) For Ambulance Bundle 2, Motorola told us⁵⁰⁸ that the contract covered the provision of control room services and terminals (including terminal support) and was outsourced.⁵⁰⁹ Motorola told us that this contract was not related to the Airwave Network and could be provided by various suppliers as evident from the DoH's decision to award elements of the Bundle 2 contract to Frequentis and Terrafix.
- (b) For interworking, Motorola told us that interworking was the provision of a bridge service which allowed the Airwave and ESN networks to be linked. Motorola stated⁵¹⁰ that interworking 'arguably should not be excluded as being able to support the transition to ESN is part of the core Airwave service going forward' and noted that the provision of interworking was [X] in any

⁵⁰⁷ [Motorola's response to the profitability methodology working paper](#), 10 January 2022, paragraph 11.

⁵⁰⁸ [Motorola's response to the profitability methodology working paper](#), 10 January 2022, paragraph 11.

⁵⁰⁹ The provision of these services is outsourced to Capita, which itself (alongside other providers) offers such services directly to Airwave Solutions customers. Motorola told us that the DoH had split the Ambulance Bundle 2 requirements and awarded contracts to Frequentis (control room services) in 2016, Terrafix (mobile data services) in 2019, and Exponential E (service partner) in 2021, and was looking to tender for LTE devices. The Ambulance Bundle 2 contract with Airwave Solutions is set to roll off in 2022-2023 once the new providers go live.

⁵¹⁰ [Motorola's Response to the CMA's Working Papers on Profitability and the Cost of Capital](#), 20 May 2022, paragraph 42.

case. (See paragraph 6.41 to 6.42 below for our assessment of interworking in light of subsequent developments).

- 6.30 The Home Office told us⁵¹¹ that the Ambulance Bundle 2 services were provided together with the core Airwave Network services, and that it did not consider that outsourcing a contract was a sufficient justification for excluding it from the scope of the analysis: it stated that it had a contract with Motorola to deliver these services and it was Motorola's choice whether to deliver these services with its own resources or to outsource them.
- 6.31 In respect of interworking, the Home Office told us⁵¹² that there was no conceptual basis to exclude interworking activities. It stated that the ownership of Airwave Solutions provided Motorola with market power in terms of the provision of interworking services – nobody else had control and direct access to the Airwave Network infrastructure, and therefore nobody else could provide the interworking solution. It stated that Motorola's ownership of Airwave Solutions was, therefore, likely to have enabled it to charge a disproportionately high price for the interworking service compared to the costs needed to deliver the service. Therefore, to fully understand the extent to which Motorola has market power over the Home Office, it was relevant to include revenues and costs associated with interworking in the profitability analysis. It also stated that the provisions to provide interworking (ie originally the SiteLink provisions) have been added to the core services of the PFI Agreement (see Appendix C).
- 6.32 In our profitability working paper⁵¹³ we had excluded revenues and costs relating to Ambulance Bundle 2 and interworking, as well as Pronto and CCCRS. Motorola had been able to identify revenues and costs of sales relating to these two activities (Ambulance Bundle 2 and interworking), but not administrative expenses. We estimated an amount by allocating administrative expenses between Airwave Solutions' various business lines on the basis of revenues. Therefore, we calculated the proportions of Ambulance Bundle 2 and interworking turnover to total turnover, applied these proportions to the total administrative expense, and removed those estimates of administrative expense.
- 6.33 Motorola told us⁵¹⁴ that it took issue with our calculation of administrative costs associated with Ambulance Bundle 2 and interworking. It told us that Ambulance Bundle 2 was mostly outsourced and therefore administrative costs associated with the provision of this service were minimal; similarly, interworking was a service with minimal administrative costs. Therefore, taking out administrative costs based on an attribution of revenue significantly overstated the cost of these

⁵¹¹ [Home Office submission and response to working papers](#), 24 May 2022, paragraph 34.

⁵¹² [Home Office submission and response to working papers](#), 24 May 2022, paragraph 36.

⁵¹³ [Profitability modelling and results](#), 6 May 2022.

⁵¹⁴ [Motorola's Response to the CMA's Working Papers on Profitability and the Cost of Capital](#), 20 May 2022, paragraph 43.

two services. Motorola did not, however, suggest an alternative basis on which to allocate administrative costs, or provide an estimate.

- 6.34 In Motorola's response to the PDR,⁵¹⁵ it stated that the very fact that the Ambulance Bundle 2 service was outsourced to a third party must by definition mean that it can be provided by the third party independently, so must not be treated as an integral part of the Airwave Network service. It also stated that we had not offered any evidence to support its claim that there were 'common costs' other than the Home Office's assertion; it stated that an outsourced contract would not cause many, if any, administrative costs.
- 6.35 The Home Office told us⁵¹⁶ that the Ambulance Bundle 2 services were provided together with the core Airwave Network services, there was a significant proportion of common costs between the Ambulance Bundle 2 contract and other services offered by Airwave Solutions to the Home Office, and identifying all the relevant costs could be challenging. As such, it considered that it would be more robust to include both revenues and costs associated with the Ambulance Bundle 2.
- 6.36 The Home Office also told us⁵¹⁷ that attempting to exclude interworking may result in errors. While the Home Office understood that we had made some adjustments for the costs of delivering the interworking service, it was possible that not all costs relating to interworking arrangements had been removed. Interworking costs were part of the core operating costs of the Airwave Network and shared common overheads; for example, there was no separate division delivering the interworking services, and it was delivered by the same people who delivered the remaining services to the Home Office. Identifying a fair allocation of staff costs between interworking services and other Airwave Network services, might not be straightforward, and if only some costs were removed, but all revenues, this would understate Motorola's true profitability of operating the Airwave Network. For these reasons, the Home Office requested that we include interworking in the analysis.
- 6.37 Finally, in the Home Office's response to the PDR,⁵¹⁸ it pointed out a potential inconsistency between the scope of the profitability assessment and of the charge control proposed in the PDR. It stated that in particular, radio terminals (except where part of a managed service) were excluded from the proposed charge control but included within the profitability assessment; and that our rationale for excluding radio terminals from the charge control, with which the Home Office agreed, was the extent of competition that already existed in relation to those services; however, this would suggest that the services were sufficiently separable

⁵¹⁵ [Motorola's response to the CMA's Provisional Decision Report – annex – supplementary comments on the CMA's profitability and remedies assessment, 22 November 2022](#), page 2.

⁵¹⁶ [Home Office submission and response to working papers](#), 24 May 2022, paragraph 34.

⁵¹⁷ [Home Office submission and response to working papers](#), 24 May 2022, paragraph 37.

⁵¹⁸ [Home Office's Response to the CMA's Provisional Decision Report, 22 November 2022](#), paragraph 3.5.

from the provision of the Airwave Network and, therefore, may need to be excluded from the profitability analysis as well. The Home Office stated that it did not think that the inclusion or exclusion of radio terminals from the profitability assessment would alter the Group's conclusions, as it corresponded to a relatively small part of the business.

Assessment

- 6.38 We noted broad agreement with our proposal to exclude Pronto and CCRS from our profitability analysis given both the contestable nature of these services and the existence of separate cost recording for them. Therefore, we have excluded these services for the purposes of our profitability analysis.
- 6.39 We considered whether the Ambulance Bundle 2 and interworking activities should be included in our analysis.
- 6.40 For Ambulance Bundle 2, we noted both that the revenues were not material in the context of Airwave Solutions' overall activities, and that there were potential complications of allocating common overhead costs between these services and those of the core network.⁵¹⁹ We also noted that the activity [X].⁵²⁰ For those reasons, we have included it in our analysis. We acknowledge that this may overstate profitability but given the relatively smaller proportion of Airwave Solutions' revenues accounted for by this activity, this will not affect the overall results of our analysis or the conclusions drawn from it.
- 6.41 With respect to interworking, we observe that in December 2022, Motorola and the Home Office executed the Interface Agreement under which Airwave Solutions will, through provision of a standard interface using 'DCS Ports' into the Airwave Network and related services, enable the development by the Home Office, its new MCPTT supplier and chosen interworking gateway supplier of an interworking solution in a timely and effective manner and in line with the Home Office's requirements. Motorola advised that this interface solution (as proposed by Motorola and agreed by the Home Office) is used in other TETRA/MCPTT deployments around the world. That interface would be used to enable the provision of a new interworking solution by any future supplier selected by the Home Office.⁵²¹
- 6.42 We note that this new agreement will change the financial outcomes for Airwave Solutions with respect to interworking and, therefore, we considered the

⁵¹⁹ While we note Motorola's submission that an outsourced contract would not be expected to give rise to many, if any, administrative expenses, i) we note that at least some overheads would be required and ii) excluding these revenues would raise cost allocation issues that are not straight-forward, such as whether an incremental cost basis is relevant, or a stand-alone cost basis, or a volume/revenue-based apportionment etc.

⁵²⁰ [Home Office's response to the CMA's Provisional Decision Report, 22 November 2022](#), paragraph 3.7.

⁵²¹ Motorola Letter to the CMA, 5 January 2023. [X]

appropriate approach for our profitability analysis. First we noted that an interworking/interface solution is integral to the transition away from the Airwave Network at the end of its useful life and that it could only be provided by Airwave Solutions to the Home Office. For this reason, we find that interworking should be included in the financial performance of the Airwave Network. Next, we observed that the new agreement was made in response to our proposed interworking remedy, as set out in the PDR, with the agreement making specific reference to that remedy.⁵²² We note that our profitability analysis seeks to assess competitive outcomes in the market absent/prior to any intervention by the CMA. Therefore, we conclude that our analysis should reflect the original interworking agreement between Airwave Solutions and the Home Office, rather than the revised terms.

- 6.43 We therefore did not make any adjustment for costs for these revenue streams (ie Ambulance Bundle 2 and interworking), so the issue we noted of making a robust or accurate estimate for the concomitant amount of administrative expenses to exclude is no longer relevant. Similarly, we noted the Home Office's submissions on radio terminals but noted that revenues associated with these were very minor in the context of the overall Airwave Solutions business. Therefore, we did not seek to exclude them from our analysis. We note that the inclusion of these services does not have a material impact on measured profitability.
- 6.44 We call the resulting scope of business activities which we analyse for the purposes of profitability analysis 'Airwave Network Services'.

Time period under consideration

- 6.45 We aim to examine profitability over a time period that is sufficiently long to provide a representative picture of profitability and that is not unduly distorted by unusual macroeconomic conditions or one-off events. Our Guidelines recognise that the appropriate time period may vary depending on the specific market under consideration.⁵²³
- 6.46 In our PDR, we set out our provisional view that the most relevant and informative time period to consider for the purposes of our analysis was the 'extension' post-PFI period, ie the period from 2020 to 2026, although we also analysed the profitability of Airwave over the 2001 to 2019 PFI period (separately). We explained that this was because:
- (a) The purpose of profitability analysis is to understand outcomes in the market, which may give insight into competitive conditions.

⁵²² Interface Agreement, 19 December 2022. [3<]

⁵²³ [Guidelines](#), paragraph 121.

- (b) We are primarily interested in recent and current competitive conditions in the market, ie those pertaining to the extension period, rather than those which may have been present more than twenty years ago, ie those around the time of signing the PFI Agreement.
- (c) The terms governing the original PFI period, ie the period to 2019 were agreed pursuant to an open tender at the start of that period, with further, separate negotiations taking place following Motorola's acquisition of Airwave Solutions in 2016 and determining the financial performance of the business from 2020 onwards. Furthermore, we noted that there were good reasons to believe that conditions of competition are likely to have been different when the extension was negotiated than when the original PFI Agreement was negotiated due to, inter alia, the incumbency of the Airwave Network and, what was at the time the extension was agreed, the limited expected further time requirement for use of the Airwave Network given the development of ESN.
- (d) A backward-looking profitability analysis for the original 2001-2019 time period would not necessarily provide a good indicator of potential market power and potential to extract supernormal profits at the time that the extension was agreed.
- (e) Similarly, assessing the profitability of the business over the whole 2001 to 2026 period would mix the picture from across the PFI and post-PFI periods and would risk masking the degree of profitability/market power enjoyed post-extension.⁵²⁴

6.47 We set out in detail the representations made by Motorola and the Home Office relating to the appropriate time period to use in this case in the following paragraphs. In summary, Motorola submitted that the appropriate time period to analyse the profitability of the Airwave Network ran from 2001 to 2026, because extensions had been integral to the original PFI Agreement, Motorola never had the ability to 'walk away' in 2019, and the shutdown of the Airwave Network was now fixed at 2026. The Home Office, on the other hand, considered that the profitability analysis should focus on the extension post-PFI period (ie from 2020), as it reflected the outcome of negotiations that had taken place since Motorola had completed the acquisition of Airwave Solutions.

⁵²⁴ [Profitability modelling and results](#), paragraphs 19 to 21.

Motorola's submissions on time period

- 6.48 Motorola submitted⁵²⁵ that it was artificial and not appropriate to split the original PFI Agreement period (2001-2019) from the extension period to look at profitability, ie the profitability of the Airwave Network should be assessed over the whole of the 2001 to 2026 period. In particular, Motorola submitted that:
- (a) The contract was never structured as an initial period of 2001-2019, at which point there was a full re-negotiation for the 'extension' period; any notional 'extension period' (a concept Motorola disagreed with) must have been set in 2016 when Motorola acquired Airwave Solutions;
 - (b) the terms on which the Home Office would require continued provision of service up to a National Shutdown Date were fully agreed in 2016 when Motorola acquired Airwave Solutions; at this point the Home Office did not specify an end date and so Motorola took on the entire risk associated with the uncertain duration over which Motorola would be required to provide the Airwave Network, including making all requisite investments to ensure that the Airwave Network remained fit for purpose;
 - (c) in economic or competition terms 2019 had no relevance;
 - (d) Motorola never had the ability to walk away in 2019;
 - (e) Motorola stated that 'well-advised parties had agreed contractual terms with reference to an agreed fair internal rate of return (IRR) *for the life of Airwave*, [Motorola emphasis] whatever that would be;⁵²⁶
 - (f) Airwave Solutions was a project company whose economic life was tied to the period for which the Airwave Network was required; the investments made by Airwave Solutions and the costs incurred over this period must be set against the revenues earned; and
 - (g) regarding any potential extension beyond 2026, [X]⁵²⁷ [X]; for this reason, Motorola told us that it considered it unnecessary to assess any longer duration [X], subject to any further changes requested by the Home Office. Motorola also stated that further changes created additional risks for Motorola that would need to be taken into account.

⁵²⁵ [Motorola's response to the profitability methodology working paper](#), 10 January 2022, paragraphs 12–18, and [Motorola's response to the CMA's Provisional Decision Report, 21 November 2022](#), paragraph 2.19.

⁵²⁶ The PFI Model was created by BT which set out the anticipated cashflows in relation to the Airwave Network at the inception of the PFI agreement (the PFI Model) in order to establish the level of compensation in the case of early termination.

⁵²⁷ [Motorola's response to the profitability methodology working paper](#), 10 January 2022, paragraph 21.

6.49 In its response to our working paper on profitability,⁵²⁸ it further submitted that:

- (a) There were never any negotiations over an extension period and the notion of an extension period was entirely the CMA's construct;
- (b) the Home Office negotiated and obtained in 2016 simply the unilateral right to require the provision of Airwave Network services beyond 2019 if this should be required because of the replacement solution – ESN – being delayed;
- (c) there was never, in 2016, any negotiation of or agreement to any specific extension period beyond 2019;
- (d) the Home Office did not, at any time, ask Airwave Solutions or Motorola, or any other prospective supplier, to quote for the provision of LMR services from 2020 to 2026;
- (e) the Home Office essentially obtained insurance against potential delays in the deployment of ESN and that there was no commitment to use the Airwave Network beyond a National Shutdown Target Date that was initially set to be the end of 2019; however the fact that we know now that the Airwave Network will be required to provide mission-critical communication services for the emergency services until 2026 must not be misconstrued as there having been negotiations for an extension period of 2020 to 2026 at any point in time;
- (f) as a matter of contractual fact there was never intended to be, nor was there, certainty as to the National Shutdown Date until the Home Office [X]. The National Shutdown Date was, at that moment, set at 31 December 2026 and the contractual obligation for Airwave Solutions to target switch-off of the Airwave Network nationally on that date crystallised. Prior to that point no such contractual obligation or certainty existed; and
- (g) the closest that the parties came to contracting a more certain outcome was when, in April 2018, the Home Office asked for a 10-year term with break points, in response to which Airwave Solutions offered discounts on its charges.

6.50 Motorola also stated⁵²⁹ that it was an 'inconvenient truth ... that Airwave has made lower returns than anticipated, overall, and it is extraordinary poor competition policy to create artificial temporal constructs to try to show excess profits of a sub-period in which Airwave Solutions could only provide the services because it had made substantial investments into its network'; and that the 'CMA's evident desire

⁵²⁸ [Motorola's response to the CMA's working papers on Profitability and the Cost of Capital](#), 20 May 2022, paragraphs 10–18.

⁵²⁹ [Motorola's response to the CMA's working papers on Profitability and the Cost of Capital](#), 20 May 2022, paragraph 15.

to find excess profits cannot be allowed to be a substitute for good decision-making.’

- 6.51 Motorola noted that the CMA initially stated that it would consider profitability over the period from 2000 to 2026 as a whole and that it had not explained its reasonings for not publishing its findings on ‘lifetime IRR’.⁵³⁰
- 6.52 In response to our PDR, Motorola submitted that:
- (a) In substance, the PFI Agreement has operated as a single contract, with a start date of 2000 and an end date now of 2026;
 - (b) the PFI Agreement never had a fixed end date of December 2019;
 - (c) in 2016 the PFI Agreement was specifically amended to avoid any possibility of that agreement ending in 2019 unless the Home Office decided otherwise;
 - (d) the CMA seems to take the view that the pricing that resulted from the 2016 negotiations would be fine until 2019 but not thereafter, even though the parties agreed something different, which makes no sense;
 - (e) the only relevance of 2019 is that ESN was supposed to be ready. It has no relevance for the Airwave contract, given what the parties agreed;
 - (f) according to the economic data that the CMA does not challenge, the Home Office has had a substantially better bargain than the one agreed to in 2000 over the entire period from 2000 to 2026 (the actual project IRR fell far short of the anticipated level, which the Home Office had been willing to agree in 2000); and⁵³¹
 - (g) The terms of the extension were agreed in 2016, at which point the new prices applied, and whatever was specified in the original agreement (including the end date) was no longer relevant. So if any meaningful split can be made (and it obviously cannot since the contract was not recomputed at that point and so would be ‘utterly artificial’) it would have to be in 2016 and reflect the terms on which the acquisition was made. In this respect, Motorola highlighted its analysis of probability weighted IRRs, undertaken at the time of its acquisition of Airwave Solutions.⁵³²

⁵³⁰ [Motorola's response to the CMA's working papers on Profitability and the Cost of Capital](#), 20 May 2022, paragraphs 7 and 8.

⁵³¹ Motorola's response to the PDR, paragraph 2.20.

⁵³² [Motorola's response to the CMA's Provisional Decision Report – annex – supplementary comments on the CMA's profitability and remedies assessment, 22 November 2022](#), page 5.

Home Office submissions on time period

6.53 The Home Office told us in response to our working paper on profitability⁵³³ that it considered it key to assess the profitability of the extension post-PFI period (from 2020) to understand the extent to which Motorola had had a position of unilateral market power since its acquisition of Airwave Solutions in 2016. This was because the contract terms of this period reflected the outcome of negotiations since Motorola completed the acquisition of Airwave Solutions and therefore inform as to whether, from this date, it held a position of unilateral market power: in other words, if Airwave Solutions were earning excess profits over this extension period, it could reflect its market power in contract negotiations for the extension.

Assessment

- 6.54 We have considered the submissions by Motorola and the Home Office and find that it is appropriate to split the lifetime of the Airwave Network between the original PFI period and an extension post-PFI period when conducting profitability analysis for competition purposes for the reasons set out in paragraph 6.46 and discussed in more detail below. In particular, we note the following points in response to Motorola's submissions:
- (a) As set out in section 4 (paragraphs 4.45 to 4.50), the PFI Agreement was for a fixed period, without provision for extension, and contained terms which sought to facilitate the transfer of network assets to the Home Office at the end of that period. In other words, the original procurement exercise and resulting PFI Agreement sought to put in place arrangements to cover the period from 2001 to 2019/20, where the price for that period was constrained by the competitive tendering process that led to those arrangements. In our assessment, that is distinct from the period from 2020 in which those arrangements were not set to apply and in which period we would, in a well-functioning market, expect the arrangements to be replaced with a competitively priced alternative.
 - (b) There are good reasons to conclude that conditions of competition are likely to have been different when the extension was negotiated than when the original PFI Agreement was negotiated due to, inter alia, the incumbency of the Airwave Network, that an asset transfer was not a credible option for the Home Office and the limited expected further time requirement for use of the Airwave Network given the development of ESN;
 - (c) The uncertainty over how long the Airwave Network will be required is not relevant to the question of whether there has been an extension and the risks

⁵³³ [Home Office's response submission to the CMA's profitability methodology working paper](#), 11 January 2022, paragraphs 2 and 11.

and costs of the uncertainty over the length of the extension are reflected in our analysis in both the WACC used and the operating and capital costs of Airwave Solutions. That is to say, we consider that the full costs of the 'insurance' Motorola submits was provided by Airwave Solutions to the Home Office is reflected in our analysis; and

- (d) As set out in paragraphs 6.15 to 6.17 above, the fact that Airwave Solutions made lower returns over the 2001 to 2019 period than it expected when it signed the PFI Agreement i) was primarily the result of it incurring higher costs in building and operating the network than it expected, which was the risk that Airwave Solutions assumed under the original PFI Agreement and against which it was provided with significant protections in the form of a hurdle rate of [15% to 20%] and early termination protections, ii) does not mean that it is inappropriate to treat Airwave Solutions as having had a reasonable opportunity to recoup its initial investments in that period, and iii) does not provide a reason to assess the profitability of the network over the full 2001 to 2026/9 period, which would, in effect, set a profitability benchmark that allowed Airwave Solutions to make super-normal returns in the post-PFI period in order to compensate it for the lower returns that it made during the PFI period when it was already compensated for that risk via the terms (pricing and other) agreed for the PFI period.

6.55 We provide further analysis of these specific points in the following paragraphs.

6.56 The evidence that we have obtained supports the view that any extension that has been negotiated since 2016 should not be regarded as integral to the original PFI Agreement for the following reasons:

- (a) The OJEC notice of 23 January 1996 (see paragraphs 2.51, 3.33 and 4.48 to 4.50) did not provide for the possibility of the PFI Agreement to be extended beyond the 15-year term of the services contracts. Internal documents obtained from the Home Office demonstrate that the Home Office considered that there were significant commercial and legal risks associated with an extension of its contract with Airwave Solutions.⁵³⁴
- (b) The original PFI Agreement was priced and negotiated on the premise that the Airwave Network would be terminated around the end of 2019 or early 2020 and the Home Office's original intention was, as Motorola acknowledged, to shut down the Airwave Network at the end of 2019. This understanding was reflected in the PFI Model, which only covered the period from 2001 to 2019/2020 and included declining revenues and costs towards the end of the period as the network was assumed to be wound down. The

⁵³⁴ Permanent Secretary Challenge Session on the Emergency Services Mobile Communications Programme (undated) and internal Home Office email dated 26 October 2016. [3<]

PFI Model also showed that the assets would be written off by the end of the 19-year period.⁵³⁵

- (c) The 2002 NAO report and subsequent Public Accounts Committee hearings show that the expectation was that the contract would end by 2019: it was expected that the network would be operating for 15 years, with two years for decommissioning at the end.
- (d) There was an original period over which Airwave Solutions contracted with the various emergency services, which did not have a single end date but instead a 'ragged edge' of contract expiries between 2016 and early 2020.⁵³⁶ In 2016, towards the end of the original period, as the contract expiries with the various emergency services were approaching, Airwave Solutions and the Home Office negotiated terms on which those contracts would be aligned, with most being extended beyond their original expiry dates. Any extension to the contracts had to be negotiated and agreed and were not automatic under the PFI Agreement. Absent this further negotiation, either party, Airwave Solutions or the Home Office could, in theory,⁵³⁷ have ceased to trade with one another after early 2020 and neither side would have had any basis to seek compensation from the other for such a course of action since there would have been no contractual commitment in place. In other words, the parties were negotiating terms for a period in which none would otherwise apply.
- (e) The PFI Agreement sought to make provision for the transfer of assets to the Home Office or an alternative service provider at the end of the contract (with Airwave Solutions being required under the PFI Agreement to prepare a Service Transfer Plan) at fair market value; and under the Public Contracts Regulations 2015, the underlying assumption is that such a contract would be competed at the end of the term, unless exemptions applied (ie not simply extended as a matter of course).⁵³⁸

6.57 We consider that Motorola's submission that Airwave Solutions could not 'walk away' in 2019 potentially misrepresents the purpose of the profitability analysis. A key issue that we have considered is whether charges – including those agreed in the 2016 negotiations – are the outcome of a negotiations process in which

⁵³⁵ The contracts specify that any assets transferred at the end of the original term should be paid for at fair market value. See section 4, and below in this section from paragraph 6.63

⁵³⁶ [3<].

⁵³⁷ We note, as a matter of practicality, that the Home Office / emergency services in Great Britain were not able to 'walk away' at the end of the original PFI Agreement period due to their critical need for a communication solution. However, that inability was practical, not contractual. Were an alternative system to have been available, the Home Office and emergency services could have ceased to use the Airwave Network as the various contracts came to an end from 2016 to early 2020 without providing Airwave Solutions/Motorola with any compensation.

⁵³⁸ [The Public Contracts Regulations 2015](#).

competition may have been prevented, restricted or distorted by features of the market. In that context, where the question is whether the Home Office was able to negotiate charges which were at or around the competitive level, the relevant question is not whether Airwave Solutions could ‘walk away’ from the existing contract but rather whether it could ‘walk away’ from negotiating prices for an extension, and what would be the consequences of doing so. In this case, its ‘outside option’ was the default price agreed in 2016 (see section 4).

- 6.58 In light of the available evidence, our assessment is that any continuation after late 2019/early 2020 was an extension to the original fixed period PFI Agreement, and that separate profitability analyses of the pre- and post-extension time periods is informative in assessing the competitive conditions in which Airwave Solutions operated over these time periods.
- 6.59 The purpose of profitability analysis is to understand outcomes in the market, which may give insight into competitive conditions. In this context, the specific date on which various terms were negotiated is not relevant: our main concern is to identify the time period over which the results of those negotiations can be observed in profitability. Our assessment is that this can most reliably be done from 2020 onwards.⁵³⁹
- 6.60 We are primarily interested in recent and current competitive conditions in the market, rather than those which may have been present more than twenty years ago. A backward-looking profitability analysis for the original 2001-2019 time period is very unlikely, in our view, to provide a good indicator of potential market power and the ability to extract supernormal profits at the time that the extension was agreed. Similarly, the profitability of the business over the whole 2001 to 2026/9 period would mix the picture from across the PFI and post-PFI periods and would risk masking the degree of profitability and market power enjoyed post-extension. That, it appears to us, would not provide insight into conditions of competition either during the original PFI period or during the extension post-PFI period. Therefore, we have not analysed Airwave’s financial performance on that basis.
- 6.61 For the above reasons, we have:
- (a) Divided our profitability analysis into two separate time periods: 2001 to 2019, and 2020 to 2029;

⁵³⁹ In coming to this conclusion, we recognise that the 2016 negotiations resulted in a change to the original PFI terms, in terms of aligning the ‘ragged edge’ of service contracts and applying discounts in lieu of further dispute over the benchmarking provisions etc, and that there could be an argument for splitting the time period from that date. However, on balance, we consider splitting the analysis at the end of 2019/beginning of 2020 to be more appropriate as it is clear from that point onwards all further revenues and costs related to the Airwave Network reflect those earned once the PFI period had ended, whereas some revenues and costs would have continued between 2016 and 2019 under the original PFI Agreement.

- (b) focused on 2020 onwards; and
- (c) not analysed the profitability of the business over the whole 2001 to 2029 period.

6.62 We note that our analysis has now been extended to cover the period from 2020 to 2029, whereas at the PDR stage it only covered the 2020 to 2026 period, albeit we recognised the possibility that the Airwave Network might be needed beyond 2026 and we included an estimate of the incremental supernormal profits that Airwave might expect to earn for each year beyond that date that the network continued in operation. We now consider it appropriate to extend our analysis to 2029 to ensure that our analysis reflects our best estimate of the expected lifespan of the network in order to achieve a full quantification of the likely customer detriment. We take into account that the HoTs set out that where a National Shutdown Notice has been issued but the schedule needs to change because other customers subsequently need to defer the National Shutdown Target Date, the Home Office can issue a Deferred National Shutdown Notice.⁵⁴⁰ Based on the evidence of the likely continued need for the Airwave Network, the switch-off date is therefore likely to be delayed to 31 December 2029, and possibly beyond. If there is a further delay to the beginning of the transition of users from the Airwave Network to ESN (or an alternative network) or the transition itself takes longer than currently expected by the Home Office, the Airwave Network switch-off date could be further delayed beyond 31 December 2029. However, we observe that this extension of our analysis does not produce qualitatively different results to those in the PDR and on which the parties were able to comment: on either basis (ie to 2026 or to 2029), it is clear that Airwave is earning very material supernormal profits.

Valuation of assets

Introduction

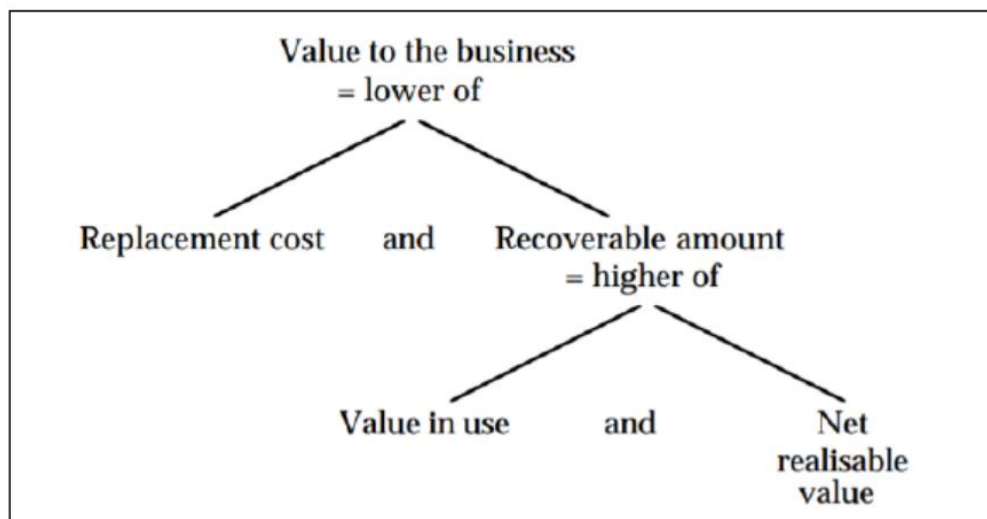
6.63 Motorola stated that⁵⁴¹ a key challenge when using the truncated IRR methodology was to establish the correct opening and closing values of assets for the specific period under investigation; and that there was a critical need to ensure the correct opening asset value since the notional extension period IRR was extremely sensitive to the change in this opening asset value. We discuss the opening and closing values of assets in this subsection, concluding with both our base case view and a sensitivity that we have taken into account prior to reaching our overall conclusions.

⁵⁴⁰ Heads of Terms, clause 2.8. See paragraph 147 of Appendix C.

⁵⁴¹ [Motorola's response to the profitability methodology working paper](#), 10 January 2022, paragraphs 19 and 20.

- 6.64 The provision of Airwave Network Services relies on a dedicated infrastructure comprising the transmission network, regional switching centres, 3,800 radio transmitters (also known as base stations) providing the TETRA radio voice and data coverage, as well as various network management centres, control systems and specialist technologies (see section 2). The valuation of such assets is therefore critical to the calculation of economic profits in this case. For this purpose, the assets should be recognised at their value-to-the-business (VTB) at the start and end of any assessment periods. Figure 1 sets out how the VTB is established.

Figure 6.1: Establishing which valuation basis for an asset gives its value to the business



- 6.65 In our PDR, we set out our provisional view that, in a well-functioning market, the value to the business of Airwave's assets at the end of the original PFI period and the start of the extension period would reflect their recoverable amount (specifically, the net realisable value (NRV)) rather than their (new) replacement cost, as the former would be lower than the latter. Therefore, in our analysis, our base case profitability estimates were based on this NRV, which Motorola had estimated at £[redacted] million. However, we also considered a sensitivity based on the assets' (depreciated) replacement cost, which we based on the Deloitte Report⁵⁴² and adjusted for subsequent capex and depreciation between 2016 and 2019 to give a valuation of around £[redacted] million.
- 6.66 Our approach was based on our assessment that the sunk costs of the network, which had already been paid for by customers, should not influence pricing during an extension period that was not planned for. Put another way, we were not minded to consider that in a well-functioning market customers would, in effect, pay twice for the same assets if the life of the network were extended beyond the term originally envisaged when the LMR network was commissioned. We noted

⁵⁴² Expert report prepared by Deloitte for Motorola dated 3 August 2016 on the fair market value of Airwave's assets [redacted]

that the (new) replacement cost approach, which Motorola put forward as the appropriate benchmark, would result in such an outcome.

- 6.67 In the remainder of this subsection, we first summarise Motorola's conceptual objections to the approach proposed in our PDR, as well as the Home Office's submissions on the same. We then consider those matters in detail in the context of the well-functioning market benchmark. We consider Motorola's and the Home Office's submissions on the specific figures used in our analysis in detail in Appendix G. We summarise our findings from paragraph 6.144.

Motorola's submissions

- 6.68 Notwithstanding Motorola's views on the appropriateness of splitting the financial performance of Airwave Network Services into sub-periods and calculating profitability separately for these sub-periods (as set out above), it submitted in response to our profitability working paper that the key to obtaining any rational result under such an approach would be the correct calculation of the closing value of assets at the end of the first sub-period, which would then determine the opening value of assets at the beginning of the second sub-period. In this context, Motorola noted that it would be incorrect to take the net book value (NBV) of the assets – calculated as the difference between accumulated capex and accumulated accounting depreciation between 2002 and 2019 – stating that it was not the case that the NBV of the assets provided a 'reasonable estimate of the value to the business', and that the results obtained from using NBV as a measure of VTB would be meaningless.⁵⁴³
- 6.69 Motorola told us that the most meaningful approach to establishing the replacement value of Airwave's assets on a Modern Equivalent Asset (MEA) basis would be to calculate the cost of a replacement TETRA network, potentially combined with a new core network, as this would be consistent with the MEA providing the same services and with not requiring users to replace their terminal equipment. In this context, Motorola pointed out that other European countries are still deploying and upgrading TETRA for LMR for public safety. Motorola highlighted that valuing assets on an MEA basis introduces further complications. Specifically, if the services were provided over an optimally configured replacement TETRA network, much of the forecast capital expenditure needed to keep the actual Airwave Network operational and to maintain the level of service would not be necessary.
- 6.70 At the same time, Motorola submitted that operating expenditure would be different, without it being clear whether it would be higher or lower than forecast. For example, operating expenditure may be lower if replacement components

⁵⁴³ [Motorola's response to the profitability methodology working paper](#), 10 January 2022, paragraphs 6 and 7.

were more energy efficient, but on the other hand, the MEA design may involve a greater degree of sourcing of services from third parties (eg buying connectivity instead of constructing own network assets or renting tower space from established tower companies rather than constructing new towers). Overall, this means that in addition to establishing the opening value of assets on an MEA basis, one would also have to estimate future cash flows that are consistent with using the MEA replacement in the provision of services. Motorola submitted that this is not a straightforward task.

- 6.71 Finally, Motorola noted that this exercise effectively amounted to asking at what price a competing supplier, building a complete replacement for the Airwave Network from scratch, might be able to supply the Airwave service from 1 January 2020 to 31 December 2026. In Motorola's view, one should be able to conclude without much detailed analysis that this price would be substantially higher than the price the Home Office pays for the Airwave service given that it would need to permit the competitor to recover the considerable investments in an alternative, equivalent network over a short period of time. By implication, Motorola submitted, the CMA's truncated IRR analysis, using a correct approach for establishing the opening value of assets, cannot find any excessive profitability. Motorola believed that the replacement cost of assets at the beginning of the extension period considered by the CMA would be substantially higher than the NPV of cash flows, which Motorola submitted would be confirmation according to the 2003 Oxera paper commissioned by the OFT that Airwave Solutions was not earning excessive profits.⁵⁴⁴
- 6.72 Following publication of our profitability methodology working paper, Motorola commissioned an expert report dated 28 February 2022 from Analysys Mason,⁵⁴⁵ which estimated the total replacement cost of the Airwave Network to be £[X] million as of 1 January 2020, comprising £[X] million of capex and £[X] million of (preparatory) opex, ie opex required in the couple of years prior to the start of the period while the network was being built.
- 6.73 In response to our profitability working paper, Motorola submitted that if one wanted to look at the terms that might hypothetically have been agreed for a defined extension period, any notion of competition in a well-functioning market must reflect the way in which LMR services needed to be provided. Motorola noted our reference to the Byatt Report and stated that it was important to consider how the threat of free entry from prospective providers would have played out if negotiations for an extension period had taken place at some point in time. In particular, Motorola submitted that the competitive benchmark price was given by

⁵⁴⁴ [Motorola's response to the CMA's working papers on Profitability and the Cost of Capital](#), 20 May 2022, paragraphs 29 to 33.

⁵⁴⁵ Report prepared for Airwave Solutions Limited by Analysys Mason entitled Modern Equivalent Asset Valuation of the Airwave Network, dated 28 February 2022 [X]

the level of remuneration required by an alternative supplier to permit recovery of the investments required to provide the services needed. These investments were considerable and were set out in detail in the work undertaken by Analysys Mason. Motorola emphasised that:

- (a) It is this level of remuneration that defines the constraint on the terms that the Home Office could obtain from Airwave Solutions in a competitive, well-functioning market with the threat of free entry; and
- (b) it is this level of investment required by such an alternative provider that also defines the *economic* value of Airwave Solutions' network assets at the start of such an extension period, making appropriate adjustments for the fact that unlike a completely new network the Airwave Network required ongoing maintenance capex. The amount a competitor in a free-entry scenario would be prepared to pay for the Airwave Network is equal to the investment in an alternative network net of the additional cost that have to be incurred as a result of the Airwave Network being old rather than new.⁵⁴⁶

6.74 On this basis, Motorola submitted that the revenues that any prospective supplier in a market with free entry would have required to provide the services supplied by Airwave Solutions over the extension period were in fact comparable to those earned by Airwave Solutions and that this demonstrated 'that a competitive, well-functioning market for the provision of services over the so-called extension period – if it could ever have existed – would have produced outcomes that are indistinguishable from those we observe in reality'.⁵⁴⁷

6.75 Motorola told us that, in our profitability working paper, we had not, therefore, used the Analysys Mason work in the correct manner, which would have been to look at the IRR of a new entrant supplier who would be providing a comparable service using a network that is new and does therefore not require ongoing maintenance capex at the prices charged by Airwave Solutions. Motorola stated that the CMA instead dismissed Analysys Mason's work because '[r]eplacing ... actual / forecast cash flows predicated on the existing worn and aged asset base with hypothetical cash flows which might be incurred if the asset base were different results in IRR estimates that do not correspond with the returns actually being earned by the business.' Motorola considered this to be a fallacious argument.⁵⁴⁸

6.76 Motorola noted that our main reason for rejecting the work commissioned from Analysys Mason in order to establish replacement costs of the Airwave Network

⁵⁴⁶ [Motorola's response to the CMA's working papers on Profitability and the Cost of Capital](#), 20 May 2022, paragraphs 19 to 20. Emphasis Motorola's.

⁵⁴⁷ [Motorola's response to the CMA's working papers on Profitability and the Cost of Capital](#), 20 May 2022, paragraph 21.

⁵⁴⁸ [Motorola's response to the CMA's working papers on Profitability and the Cost of Capital](#), 20 May 2022, paragraph 22.

on an MEA basis appeared to be that the resulting network would be new and not require maintenance capex, unlike Motorola's ageing network that needs significant investment to be capable of providing the service until the end of 2026. In doing so, Motorola submitted that we:

- (a) Mistakenly assumed that the Analysys Mason report was aimed at establishing the fair value of the Airwave Network. Motorola told us that this was clearly not the case, and nowhere had it made such a claim; and
- (b) claimed, without any justification, that the analysis of the profitability of service provision over a replacement does not provide much insight as it involves hypothetical cash flows that might result in IRR estimates that are different from the returns actually earned by the business.⁵⁴⁹

6.77 Further, Motorola told us⁵⁵⁰ that the approach of using NRV was in contrast to the recommendations in a paper written by Oxera,⁵⁵¹ which stated the following (at paragraph 1.15):

For the assessment of excessively high profits, assets should be valued on an MEA basis.

6.78 Motorola told us⁵⁵² that the Oxera paper did not provide any further discussion of this sentence, as that was not needed as the economic logic was obvious: because in the case of suspected excessive profitability, future earnings would always exceed NRV and might include economic rents, and therefore replacement costs would provide an appropriate ceiling on asset values.

6.79 Separately, Motorola submitted that in 201 , ie t wo years before the 'extension period,' it offered the Home Office [X] that, had the Home Office chosen to take it, would have yielded [X] for the Home Office to the end of 2026/27.⁵⁵³ Motorola told us that the Home Office therefore had options and this was precisely what a well-functioning market looked like, noting that the fact the Home Office chose the 'pay

⁵⁴⁹ [Motorola's response to the CMA's working papers on Profitability and the Cost of Capital](#), 20 May 2022, paragraph 27.

⁵⁵⁰ [Motorola's response to the CMA's working papers on Profitability and the Cost of Capital](#), 20 May 2022, paragraph 25.

⁵⁵¹ [Assessing profitability in competition policy analysis, July 2003](#)

⁵⁵² [Motorola's response to the CMA's working papers on Profitability and the Cost of Capital](#), 20 May 2022, paragraph 26.

⁵⁵³ In its response to our PDR, Motorola further stated: 'Not only does the CMA ignore the consequences of what was agreed in 2016, the CMA also does not take proper account, in considering what a well-functioning market would deliver, of the Airwave pricing offer made to the Home Office in 2018. The Home Office was offered better charges in 2018 which, had they been accepted, would now, i.e. during the period that the CMA claims there are excessive profits, be yielding approximately £500 million in savings to the Home Office.' ([Motorola response to the PDR](#), paragraph 1.19). The Home Office told us that the offer period extended significantly beyond the date by which Motorola was committed to for the delivery of ESN, and as such, at the time the offer was made, it would not have represented good value for money and would not have been commercially sensible to accept Motorola's offer. (Email from the Home Office, 27 March 2023). [X]

as you go' option which with hindsight turned out to have been the more expensive option reflected the uncertain nature of contracting and nothing more.⁵⁵⁴ We have considered and assessed the implications of the parties' negotiations and choices in sections 3 and 4. We do not consider them further here, except to note that a discount of this scale would still have resulted in Airwave making material supernormal profits over the period from 2020 onwards given the scale of such profits (see Table 6.3 below).

6.80 Finally, in response to our PDR, Motorola submitted that:

- (a) The fact that one (incorrect) measure [recoverable amount/net realisable value] is lower than another [replacement cost] (see paragraph 6.65) is not a rational basis for its use. Moreover, this analysis ignores that the value in use, (measured as the discounted value of the stream of future revenues) is greater than the net realisable value whenever we have specific assets with a remaining economic life. When revenues are assumed to be at the competitive level, one would then simply use this discounted revenue stream. However, when the question is whether revenues are at the competitive level, one cannot use this discounted revenue stream because the revenues might include elements of economic profits. Any analysis would be circular. For the same reason, one cannot use the discounted value of revenues one considers to be competitive, as this is exactly what needs to be checked. For this reason, the only option of checking whether revenues are above their competitive level is to use replacement cost (MEA), as Oxxera very clearly states.⁵⁵⁵
- (b) The charges [under the PFI Agreement] were set so that Airwave would recover the expected capital expenditure – actual capex was much higher and the CMA is therefore wrong to claim that all of Airwave's assets had been paid for under the terms of the PFI Agreement (and wrong to raise the point about 'paying twice', which has no economic basis at all). This is evident from the fact that the actual returns over that period (as calculated by the CMA) were well below those implied by the revenues and costs in the PFI model. Even though there was no guarantee that Airwave would earn a return of 17% (or any number specified in the model), the fact that actual returns were much lower clearly invalidates the claim that all of Airwave's assets have been 'paid for' over the period from 2000 to 2019.⁵⁵⁶
- (c) The ability to continue using assets for longer than expected clearly creates a gain. As these assets are specific, for this gain to be realised, it is necessary that

⁵⁵⁴ [Motorola's Response: Reimagining the Well-Functioning Market: the CMA's construction of a market that never existed](#), 20 May 2022, paragraph 5.

⁵⁵⁵ [Motorola's response to the CMA's Provisional Decision Report – annex – supplementary comments on the CMA's profitability and remedies assessment, 22 November 2022](#), pages 6–7.

⁵⁵⁶ [Motorola's response to the CMA's Provisional Decision Report – annex – supplementary comments on the CMA's profitability and remedies assessment, 22 November 2022](#), page 7.

the assets are operated for longer. Put differently, if the Airwave network could provide services beyond 2020, it should have been used instead of being replaced by ESN. A separate question is how this gain would be shared between the parties. This would be influenced by who can claim ownership of the assets at the end of an initially agreed period. If the assets remain in the ownership of Airwave, the gains would in the first instance accrue to Airwave, though one could imagine a bargaining outcome where the Home Office threatens to switch to a replacement rather than carry on, thus eliminating the gains that flow from continued use which Airwave would otherwise enjoy, and the parties split the difference somehow. Alternatively, there could be provisions for transfer of ownership of the assets to the Home Office after a specified period at a price equal to the NRV. In this case, the gains would in the first instance accrue to the Home Office, which could invite competition for the continued operation of the assets. If the view is that the asset transfer provisions in the PFI Agreement clearly were not fully specified, and there was scope for interpretation and dispute between the parties, the obvious way to resolve this would have been solved through the contractual dispute resolution provisions. The Home Office has actively enforced its contractual rights and there is no reason to suppose it would not do so in this case. Such a process would then determine how the gains would be shared. The CMA's assumption that such a process would have resulted in all assets to the Home Office at NRV is untenable, and in any case not a matter of competition law. From this implicit presumption about the outcome of a process that was never sought and never took place, the rest follows.⁵⁵⁷

- (d) The on-going economic value of Airwave's assets (beyond the initially contracted period) cannot be taken as a given but rather depends on the investments made by Airwave, which would have driven the determination of the 'fair market value'. For example, conscientious capex undertaken after 2016 was driven by Motorola's expectation that the Airwave network would need to work beyond 2020 and would therefore be included in whatever might have been determined as a fair market value. It makes no sense that the CMA includes this spend in its sensitivity analysis, and some of it in its calculation of the opening value of the Regulatory Asset Base ('RAB'), but not in its base case for the profitability assessment where the 'fair market value' is NRV corrected for liabilities associated with the obligations to decommission the network, allegedly paid for by the Home Office over the course of the PFI Agreement.⁵⁵⁸
- (e) Under provisions that transferred the assets to the Home Office at the end of the initial period, Airwave would not have had to incur decommissioning costs, so the shifting around of decommissioning costs in the profitability analysis and the

⁵⁵⁷ [Motorola's response to the CMA's Provisional Decision Report – annex – supplementary comments on the CMA's profitability and remedies assessment, 22 November 2022](#), pages 8–10.

⁵⁵⁸ [Motorola's response to the CMA's Provisional Decision Report – annex – supplementary comments on the CMA's profitability and remedies assessment, 22 November 2022](#), page 10.

design of the charge control is wholly unfair.⁵⁵⁹ [We address this point on decommissioning costs in Appendix G].

- (f) The CMA's view that, in a well-functioning market, in the situation where a supplier is provided with a guaranteed level of revenues to ensure it is able to recoup the significant outlay required to develop a network, one would expect customers to enjoy material protection with respect to the pricing of LMR services in the event of requiring an extension of services beyond the period originally envisaged, is pure supposition. Motorola submits that the parties were well resourced and advised by external advisers when the PFI Agreement was converted from a fixed term contract to one of unlimited duration, and that it is obvious that the absence of any material protection that the CMA would like to see is not a market failure issue.⁵⁶⁰
- (g) With respect to the Oxera guidance, Motorola submits that the CMA does not explain why 'general guidance' should not apply in this case, and it is wrong to ignore such guidance without good reason. Moreover, it is also wrong to arrive at outcomes that are contradicted by 'general guidance', without clear and rational explanation. As far as the reason why the conclusions about MEA should not apply, Motorola puts forward the view that it is only because the CMA believes that Airwave should have been obliged at the end of 2019 to hand over the assets to the Home Office at NRV in a well-functioning market. Motorola states that this is a question about the provisions in the original contract and what they would have meant in practice, not a competition question.⁵⁶¹

The Home Office's submissions

- 6.81 In addition to the standard profitability analysis, the Home Office proposed that we undertake a supplementary piece of analysis, examining the expected profitability of the acquisition of Airwave Solutions by Motorola in 2016. The Home Office submitted that understanding the return that Motorola expected to make in 2016 would provide insights into its assumptions at the time on how long the contract would be extended. In other words, this would allow us to assess whether Motorola expected to achieve an IRR higher than the benchmark WACC by the end of the original PFI contract period, or whether this depended on the terms under which it would agree extensions to the Airwave Network. The Home Office submitted that this can provide indications of Motorola's ability to exploit its position as monopoly supplier of critical infrastructure to extract supra-competitive rents during the extension periods. The Home Office explained that for this

⁵⁵⁹ [Motorola's response to the CMA's Provisional Decision Report – annex – supplementary comments on the CMA's profitability and remedies assessment, 22 November 2022](#), page 11.

⁵⁶⁰ [Motorola's response to the CMA's Provisional Decision Report – annex – supplementary comments on the CMA's profitability and remedies assessment, 22 November 2022](#), page 11.

⁵⁶¹ [Motorola's response to the CMA's Provisional Decision Report – annex – supplementary comments on the CMA's profitability and remedies assessment, 22 November 2022](#), page 13.

analysis, we would need to look at the purchase price paid by Motorola in 2016 and estimates of financial forecasts for the years from 2016 onwards, and partition the analysis between the period of 2016–2019, 2020–2026, and such additional periods we consider necessary.⁵⁶² We note that the purchase price paid for Airwave Solutions in 2016 can provide an upper bound estimate of the VTB of its assets at that date and that such an analysis can, therefore, be informative in the context of our profitability analysis. We have, therefore, carried out this analysis, as set out in Appendix I and we note that it supports the conclusions that we reach on asset valuations as set out from paragraph 6.99 below.

- 6.82 In response to our profitability working paper, the Home Office noted that it considered our principles in valuing Airwave’s assets to be sound and that we have followed those principles ‘thoroughly, albeit conservatively’.⁵⁶³
- 6.83 In response to our PDR, the Home Office submitted that our approach was too generous to Motorola in a number of respects, including in terms of our: i) assumptions around the rate of decline in revenues from Ambulance Bundle 2 and police menu charges, ii) our use of Motorola’s estimates of redundancy costs, iii) our approach to adjusting Airwave’s cost base with respect to transfer pricing issues and iv) our approach to estimating the depreciated replacement cost of Airwave’s assets, specifically our approach to depreciation in that calculation.⁵⁶⁴ We consider these points in more detail in Appendices G and H.

Assessment

- 6.84 Motorola’s submission on our approach to valuing Airwave Solutions’ assets turns on its view of the well-functioning market benchmark and the competitive price associated with that situation. In effect, Motorola submits that:
- (a) The ‘competitive price’ (as the benchmark against which we should assess the profitability of the Airwave Network from 2020 onwards) is that which would be sufficient to incentivise a new entrant with a new network into the market to provide these services for the limited remaining period over which the Home Office requires them.⁵⁶⁵
 - (b) In the context of the original PFI Agreement, the gain that arises from the on-going use of the Airwave Network’s assets would be divided in some way between Airwave Solutions and the Home Office but our assumption, as set out

⁵⁶² [Home Office’s response submission to the CMA’s profitability methodology working paper](#), 11 January 2022, paragraph 18.

⁵⁶³ [Home Office submission and response to working papers](#), 24 May 2022, paragraph 38.

⁵⁶⁴ Home Office’s Response to the CMA’s Provisional Decision Report, 22nd November 2022, pages 11-13.

⁵⁶⁵ [Motorola submission, Reimagining the well-functioning market: the CMA’s construction of a market that never existed](#), 20 May 2022, paragraph 14.

in the PDR, that all the gain would/should accrue to the Home Office is untenable and 'in any case, not a matter of competition law'. Motorola highlights that the value of Airwave Network assets – and, by implication, the split of this gain – would be a matter for contractual dispute resolution.⁵⁶⁶

- 6.85 For the reasons set out in our PDR and considered further below, we do not agree that such a price (ie that referred to in 6.84(a)) represents the outcome of a well-functioning market in the particular circumstances of the Airwave Network since it implies that customers should have both guaranteed revenues to cover the original risks associated with investing in the network, including a 'hurdle rate' over and above a reasonable cost of capital, and then pay again (effectively twice) for the use of the LMR assets employed by Airwave Solutions simply because the life of the network was extended beyond that originally envisaged.
- 6.86 Second, as set out in section 4 (4.58 to 4.95), we recognise that the actual provisions of the PFI Agreement with respect to the transfer of assets and the value to be paid in that respect give rise to uncertainty. We have also found that this uncertainty is a factor relevant to our finding of an AEC. The key question for the purposes of our analysis is how the value of the network assets in 2020 should be assessed in the context of a market with the broad characteristics of this one (as set out in 6.87 to 6.88 below), the circumstances in which the PFI Agreement was made and the 'deal' it provided for and what we would expect to observe in a well-functioning market
- 6.87 The characteristics of LMR networks – in particular, the large, sunk costs associated with the development of such networks – are such that there is likely to be a single supplier and one or a small number of purchasers (who may group together).⁵⁶⁷ We would not expect to see LMR networks being developed speculatively but rather the main purchaser(s) effectively commissioning a supplier to develop and operate a network.
- 6.88 In return, the purchaser would provide a high level of security to the supplier in terms of demand/remuneration for the services provided. Indeed, this was the case with the Airwave Network where the Police Information Technology Organisation (PITO)⁵⁶⁸ signed a long-term agreement with Airwave Solutions for

⁵⁶⁶ As set out in Section 4, it is clear to us that the meaning of 'fair market value' is a matter that Motorola considers to be uncertain.

⁵⁶⁷ Although Airwave Solutions provides services to a couple of hundred organisations, ie the emergency services plus various Sharer organisations, we note that only a small number of customers are of a sufficient scale to make it economic for them to commission this type of service. The other Sharer organisations could be expected to find an alternative solution in the absence of an existing LMR network.

⁵⁶⁸ The body that was responsible for identifying and developing the use of information and communication technology among police forces and an original party to the PFI Agreement subsequently replaced by the Home Office.

the provision of services, under which revenues were largely guaranteed and significant financial protection was provided in the case of early termination.⁵⁶⁹

- 6.89 For a market with these characteristics to work well, we would expect to see periodic tendering, ie competition for the market, for fixed periods, with the purchaser able to effectively re-tender at the end of one fixed period for provision in the next fixed period. For such re-tendering to be effective, the purchaser should not face material barriers to switching supplier, such as risks or uncertainty about the continuity of supply and/or the need to incur high switching costs. As set out in section 4, we consider that Airwave Solutions' continued ownership of the network assets and the uncertainty associated with the asset transfer provisions contribute to such barriers to switching.
- 6.90 Our assessment is that, in a well-functioning market, in the situation where a supplier is provided with a guaranteed level of revenues to give it the opportunity to recoup the significant outlay required to develop a network, we would expect customers to enjoy material protection with respect to the pricing of LMR services in the event of requiring an extension of services beyond the period originally envisaged. We do not agree with Motorola that this assessment reflects 'supposition' but rather we consider that it reflects the economic logic of a PFI agreement, such as the one between Airwave Solutions and the Home Office.
- 6.91 Specifically, we would expect pricing during such an extension period to be constrained at a level at which the supplier was, broadly, only able to recover the incremental investment in the network required to extend its life, its (efficient) operating expenses, and a reasonable return on its capital, taking into account the (much reduced) risks assumed by the supplier over the extension period.⁵⁷⁰ This result could be achieved via different mechanisms, including, for example the contract providing effectively for the transfer of the network assets at the end of the contract period. This would allow for the re-tendering of the provision of services using that already built-and-paid-for network.⁵⁷¹
- 6.92 We note that rather than being 'fictitious', as Motorola has asserted, this well-functioning market benchmark is a plausible one in light of the contractual

⁵⁶⁹ The core service charge for the original PFI Agreement was based on a baseline figure and adjusted each year to take account of indexation. The core service charge did not vary by volume once all the police forces were in receipt of the service, save for service charge credits which were applied, and in 2016 and 2018 the outcome of the negotiations was that revenue would be maintained until closure of the network, even as individual police forces moved over to ESN. Menu charges do have a volume element in that they are levied on individual police forces depending on the level of coverage required locally. However, we understand that this coverage requirement does not vary materially from year to year.

⁵⁷⁰ We note that this constraint could be provided either by an effective contract, or by competition among several potential LMR network suppliers which were already operating in the market, ie who had already incurred the sunk costs of constructing a network.

⁵⁷¹ See section 4 for our further consideration of the well-functioning market. A different alternative could be for the contract to require that the original supplier reduce prices during any extension period to reflect the fact that the network assets had already been 'paid' for over the original contract term.

provisions and expectations at the time that the original PFI Agreement was signed (although we observe that some of these provisions have given rise to uncertainty and not been effective - see section 4). For example, we note statements made by Motorola during our site visit about the original pricing of the network and the assets employed therein:

[X] The original PFI contract will have assumed the shutdown at 2019 and then network decommissioning taking place thereafter? The pricing for that contract will have built in that assumption?

[X] Yes.

[X] So, it will have assumed a complete amortised cost of everything by the end of the PFI contract?

[X] Yes.⁵⁷²

- 6.93 We also note that the PFI Model, which was submitted to us as providing the basis on which PITO and BT originally contracted in the PFI Agreement, [X]. This suggests that the original pricing agreed between PITO and BT was considered sufficient to fully compensate BT/Airwave Solutions for its expected investment in the network and the associated risks of developing and operating that network.
- 6.94 In this context, we consider that it would be reasonable to assume that, in a well-functioning market, taken to encompass the full lifetime of contracting for the Airwave Network, that Airwave Solutions would not be able to recover any further value for those assets it invested in during the original PFI period after the end of that period. We note that:
- (a) To ascribe a higher (MEA) value to them, as Motorola seeks to do, would in our view allow it to capitalise the value of its incumbent position in serving the Home Office and other relevant authorities, in effect charging its customer twice for the Airwave Network in the event of an unexpected extension;
 - (b) The fact that Airwave may have spent more capex than expected does not provide a reason to depart from this conclusion. As explained in paragraphs 6.15 to 6.17, and 6.54 to 6.62 above, we find that the logic of the original PFI Agreement was that Airwave Solutions received a high level of protection in terms of inflation-linked revenues, a high projected IRR, and early termination protection in return for assuming the risk associated with building and operating the network. The fact that it may have needed to invest more than expected does

⁵⁷² Site visit. We note also the following in a written response from the Home Office to the Public Accounts Committee: 'The Airwave contract payments are spread over 15 years for each force starting at the Ready for Service date. There was a planned progressive roll out starting in 2001 and the total life of the programme, including the roll-out and decommissioning phases, will be 19 years.' Committee of Public Accounts (2002), [Public Private Partnerships: Airwave](#) (HC783).

not, in our assessment, suggest that it should have a further opportunity to seek to achieve the [15% to 20%] IRR over an extended time frame. It has already been compensated for the risks that it assumed. In any case, we note that its actual returns over the 2001 to 2019 period were somewhat above a standard cost of capital, even if they were below the hurdle rate set ex ante. In our view, this suggests that Airwave Solutions did, in fact, recoup those initial investments in full;

- (c) However, we recognise that some of the capital investments made by Airwave Solutions after 2016 are likely to have been made in expectation of a longer useful life for the network, ie these may have been made in order to allow the network to operate after 2020 and consequently that the value of the opening assets should be increased to reflect those later capital investments. We consider how to take this into account in our analysis in paragraphs 6.98 and 6.99 below.

6.95 In this context, we do not agree with Motorola's submissions on either the Oxera paper or the Byatt Report.⁵⁷³ We recognise that we are departing from the recommendations of the former. As we explained in the PDR, the Oxera report constitutes general guidance which we agree is appropriate in most cases. However, we do not believe that it is appropriate in this case due to the very particular circumstances under which the Airwave Network was procured and remunerated during the PFI period, as set out above. In this case, the use of an MEAV/(new) replacement cost would create a benchmark that allowed a supplier to charge a captive customer again for assets which the supplier had already been given the opportunity to recoup (and which it did, in fact, recoup).

6.96 The key insight, it appears to us, from the quoted section of the Byatt Report is that assets should be valued at the level at which they would be traded in the absence of the existence of market power for any party which controls those assets. We note that this would be best approximated by the fair market value of the assets employed by the Airwave Network in their state as of the end of 2019 in the absence of the on-going contract with the Home Office, ie their value in an alternative use. The use of (an undepreciated) MEA as the benchmark in this case would seem to us to allow Motorola to capitalise on its incumbent position as

⁵⁷³ In our [Profitability modelling and results](#) working paper, we highlighted paragraphs 51 to 53 of the Byatt Report ('Accounting for economic costs and changing prices: a report to HM Treasury, 19 6'), which state: 'In measuring the continuing costs of supply the relevant prices are those that would be paid for resources purchased now in the normal course of business in competitive markets. Such competitive market conditions may result from the actual existence of competing producers or, more generally, from the threat of competition from potential producers entering the market. Even where competitive markets do not exist, it is necessary to estimate the effects that competition would have in order to measure the value of the resources used.' The assumption of free entry into a market defines the level of profit required to cover the cost of capital, since no-one will enter unless they expect to recover this cost. The assumption of free entry also defines the value of existing assets to a business as equal to the amount a competitor would be prepared to pay for them in a competitive market.'

owner of Airwave Solutions to realise a windfall gain on the value of its assets (the windfall being the difference between the alternative use value of the assets which it would have recovered in the absence of the contract extension and their replacement value). As set out above, we regard the approach set out in the Byatt Report as more appropriate given the circumstances of this case.

6.97 In its response to our working papers on profitability and the cost of capital, Motorola stated⁵⁷⁴ that we had ignored the fact that Airwave Solutions' assets were not fully written down by the end of 2019 and that the cost had therefore not been fully recovered. It cited our model from the first profitability working paper⁵⁷⁵ which showed that accumulated depreciation fell short of the accumulated capex at the end of 2019 by £240m.⁵⁷⁶

6.98 As to that submission, we note four points:

- (a) First, the NBV of Airwave Solutions' assets as of the end of 2019 was, in fact, £170 million in its statutory accounts, rather than £240 million. The higher figure was the product of retrospective changes made to Airwave Solutions' depreciation policy in the August Model submitted to us.
- (b) Second, this change in depreciation policy was made to reflect the longer expected useful life of the Airwave Network assets as the result of the extension, in other words, in the expectation that they would be used beyond the end of 2019.
- (c) Third, it is likely that a large amount of capex spent in the final years of the PFI period was incurred with a view to ensuring the longevity of the network for the extension period, and therefore it would not have been written off by the end of 2019 because it was expected to be 'paid for' via revenues collected during the post-2020 period. Our analysis makes separate adjustment for such investment.
- (d) Finally, we note that the PFI Agreement was priced using an IRR/cash flow model. In such a model, the depreciation policy chosen has no influence on estimated returns because depreciation is not a cash flow item. Hence, whether or not Airwave Solutions had chosen a depreciation policy that fully wrote off the assets it invested in by 2019 is not in our assessment relevant to the question of whether the original price agreed allowed the business to fully recover those costs.

⁵⁷⁴ [Motorola's response to the CMA's working papers on Profitability and the Cost of Capital](#), 20 May 2022, paragraph 38.

⁵⁷⁵ [Profitability modelling and results](#), 6 May 2022.

⁵⁷⁶ £240 million was the figure contained in the financial forecasts Motorola provided in August 2021, however we noted that the relevant figure calculated directly from the figures contained in Airwave Solutions' accounts was £170 million.

Conclusions – valuation of assets

- 6.99 In coming to our conclusions on the appropriate valuation of Motorola's assets for the purposes of our profitability analysis, we have considered all three potential valuation approaches, as set out in Figure 6.1: Value to the Business. These are as follows:
- (a) We find that the most reliable estimate of the replacement cost of the Airwave Network, is likely to be given by the 2016 Deloitte Report, which was prepared independently of our investigation, and rolled forward to reflect further investment in the network between 2016 and 2019. This suggests an asset valuation of around £[X] million;
 - (b) Motorola estimated the net realisable value of its network assets to be around £[X] million.
 - (c) As set out in detail above, we consider that the value-in-use of the assets under an extension period in a well-functioning market would be zero, for those assets required to operate the network during the original PFI period. However, under this approach, we consider that:
 - (i) those investments made specifically in order to operate the network beyond the end of 2019 should, in a well-functioning market, be recognised at (depreciated) replacement cost as there would otherwise have been no incentive for Airwave Solutions to invest to prolong the life of the network. We estimate this latter value to be between £[X] million and £[X] million as of the end of 2019;⁵⁷⁷
 - (ii) for continued use of the assets to be worthwhile for the party that has the right to the residual (alternative use) value, that value should be recognised in the asset base. As set out in (b), Motorola estimates this value to be £[X] million.
- 6.100 Applying the framework set out in Figure 6.1, the VTB of assets is the lower of their replacement cost and their recoverable amount, with the latter being the higher of their net realisable value and their value in use.⁵⁷⁸ This indicates that the Airwave Network's assets should be valued according to their value-in-use in a well-functioning market (as set out above), which we estimate to be between £50 million and £80 million (reflecting the residual value of those assets invested in in

⁵⁷⁷ We note that the upper end of this range capitalises and depreciates all investments in the Airwave Network made from 2016 onwards, applying the depreciation policy of Airwave Solutions at the time the investments were made. The lower end of the range takes a similar approach but assumes that the first £[X] million of capex in each year over the period was made in order to maintain the existing network, ie would have been needed even if the network had ceased to operate at the end of 2019.

⁵⁷⁸ We note Motorola's response that the fact that the recoverable amount is below the replacement cost is not a reason to use the former (see paragraph 6.80). However, as set out in Figure 1, a VTB approach does require that the lower of these two values is used.

order to provide services during the PFI period and a (depreciated) replacement cost approach for all assets invested in for the purposes of providing services from 2020 onwards).⁵⁷⁹

- 6.101 In our profitability analysis, we have used the upper end of this range, ie £80 million, as a conservative estimate of the value of these assets. This is a material increase from the position adopted in our PDR and reflects our agreement with Motorola's submission that it is appropriate to recognise the value of investments made before the end of the PFI period in order to provide services from 2020 onwards.
- 6.102 We note that the analysis we carried out in Appendix I, using the purchase price of Airwave Solutions in 2016 as a proxy for the VTB of the business' assets as of that date, indicates that Motorola had recovered its investment in Airwave Solutions (plus a reasonable return) by the end of 2019. We note that this is consistent with a minimal asset value as of the end of 2019. However, we have not placed material weight on this analysis.
- 6.103 We have also carried out a sensitivity analysis using the estimate of the depreciated replacement cost, as set out in paragraph 6.99 above. The results of our sensitivity analysis are set out in paragraphs 6.144 to 6.150 below.

Adjustments to costs – transfer charging issues

- 6.104 Airwave Solutions is not a standalone firm transacting exclusively with third parties. It is part of the Motorola group of companies and it transacts extensively with other businesses within that corporate group. Airwave Solutions therefore utilises both resources external to Motorola and resources that have been provided internally.⁵⁸⁰
- 6.105 For externally provided resources we note that Motorola, in common with the previous owners of Airwave Solutions, would have had the incentive to select suppliers in a way that minimises its overall cost base. Therefore, the costs reported for these items are likely to reflect reasonably efficient choices at the time Motorola committed to deploy those resources. The default assumption is therefore the costs of utilising these resources would have been measured on an economic basis.
- 6.106 For internally provided resources, however, it is not clear whether resources costed in line with the transfer charging practices of a corporate group would, necessarily, reflect economic costs. In the case of Motorola, we observe that its

⁵⁷⁹ The £50 million to £80 million range reflects the £[<] million to £[<] million (depreciated) replacement cost estimate range plus the £[<] million residual value estimate.

⁵⁸⁰ For this purpose costs that Airwave Solutions incurs by contracting with third parties (which would include its staff costs) are counted as external costs.

transfer pricing policy document appears to have been devised primarily for tax planning and compliance purposes.⁵⁸¹ We note that Motorola may also have an additional interest in reducing the apparent profitability of Airwave Solutions in the context of its ongoing negotiations with the Home Office.

6.107 We have, therefore, undertaken a detailed review of Airwave Solutions' transactions with the rest of Motorola that relate to Airwave Network Services. We identified five areas for further scrutiny as follows:

- (a) The provision of a parent company guarantee (PCG) by Motorola Solutions Inc (MSI)⁵⁸²;
- (b) the provision of strategic support;
- (c) the provision of 'MSI field engineers';
- (d) the recharge of shared selling, general and administration (SG&A) items incurred elsewhere within Motorola; and
- (e) the purchase of capital equipment.

6.108 We summarise our findings in each of these areas below. Full details of our analysis are set out in Appendix H.

Parent company guarantee

6.109 This relates to the transfer charges from MSI to Airwave Solutions in relation to a guarantee that Motorola provides to the Home Office that, were Airwave Solutions to get into financial difficulty, then it would both ensure the performance of the Airwave contracts and financially underwrite Airwave Solutions up to a value of £[X] million (indexed up each year by RPI inflation). The Home Office re-set the level of the requirement for a guarantee from the ultimate parent company of Airwave Solutions in light of the negotiations with Motorola when it acquired Airwave Solutions in 2016.

6.110 In 2020 Motorola commissioned KPMG to estimate a range for the annual charge that a third party would incur for the provision of such a guarantee. KPMG arrived at a range for the charge between US\$ [0.5 to 1.0 million] [X] million (£ [0.3 to 0.8 million]) [X] million) and US\$ [9.0 to 10.0 million] [X] million (£ [6.8 to 7.7 million]) [X] million) per year dependent on whether one took into account the probability of Airwave Solutions defaulting or Motorola defaulting. KPMG used the credit ratings of Airwave Solutions and Motorola respectively to estimate these

⁵⁸¹ Motorola's response to Q1 to RFI 2 dated 9 July 2021. [X] This document indicates that transfer pricing policy is owned by Motorola's Corporate Tax department.

⁵⁸² The ultimate parent company for the Motorola group of companies.

probabilities, with both businesses having strong credit ratings but that of Airwave Solutions being significantly stronger than that of Motorola (suggesting that Motorola had a higher probability of default than Airwave Solutions).

- 6.111 Our assessment is that the US\$[9.0 to 10.0 million]) [X] million per year estimate is an inappropriate basis for assessing the value of this guarantee since the guarantee's primary purpose is to provide protection (from Motorola to customers) in the case in which Airwave Solutions were to default. We note the PCG does not provide protection against a default by Motorola itself and that, if Motorola were to default, then the guarantee would be worthless. We therefore consider an internal charge set at a level which takes into account the probability of Airwave Solutions defaulting to be appropriate.
- 6.112 We are minded to regard KPMG's estimate based on Airwave Solutions' probability of defaulting as setting an upper limit for the appropriate charge. It is an upper limit because KPMG's estimate for the charge based on Airwave Solutions probability of defaulting is computed on the basis that, should Airwave Solutions default, Motorola would be required to fund £[X] million to Airwave Solutions. The amount Motorola would in fact be required to fund, however, would depend on how much money Airwave Solutions actually needed in order to operate until the transition to ESN was completed. It may well be the case that Airwave Solutions would require a sum less than the £[X] million cap in order to meet its ongoing operational and financial obligations.
- 6.113 In our analysis, we have taken a conservative approach, ie assumed the upper bound is appropriate, and used a PCG cost of £[0.3 to 0.8 million] [X] million per year.

Strategic support

- 6.114 Motorola told us that, starting in 2019, it had introduced a strategic management fee of around £[X] million a year in order to compensate the rest of Motorola for:
- (a) ongoing supply of know-how;
 - (b) commitment to provide TETRA technology advances and fixes as needed;
 - (c) management commitment to the customer at the highest levels within MSI;
 - (d) guarantees of system operation; and
 - (e) ensuring the coordination for ESN transition.⁵⁸³

⁵⁸³ Motorola's response to the RFI dated 24 January 2022, paragraph 32. [X]

- 6.115 In 2020 Motorola commissioned KPMG to estimate a range for the annual charge that a third party would incur for the provision of such services as set out in paragraph 6.114. In arriving at a suggested range for this charge, between 3% and 7% of revenues, KPMG benchmarked Motorola strategic support against a franchisor/franchisee model whereby the franchisee pays the franchisor a royalty fee. Motorola adopted a figure towards the lower end of the range, ie [X]%, to calculate the level of the internal charge to Airwave Solutions.
- 6.116 We are concerned, however, that the approach adopted by Motorola with respect to charging for strategic support is inappropriate for two key reasons. First, our assessment is that it is likely to result in the double counting of costs. We would expect many, if not all, of the know-how and support services set out in paragraph 6.114 to be covered by other pre-existing transfer charges within Airwave Solutions' financial statements such as the normal provision of management services (see SG&A support below), the charges for field engineers, hardware and software support ('MSI field engineers') and charges for Motorola-branded equipment, on which Motorola charges a significant mark-up on sale to Airwave Solutions. As set out in further detail in Appendix E, the descriptions and explanations of the strategic support services provided by Motorola have not, in our view, identified different and additional services provided to Airwave Solutions that have not been remunerated via these other intragroup transfers.
- 6.117 Second, we do not regard the relationship between the rest of Motorola and Airwave Solutions as analogous to that between a franchisor and a franchisee. In this context, we note that Airwave Solutions supplied LMR network services to emergency services in Great Britain for 15 years prior to Motorola's acquisition of the business without any such support being provided, or fee charged, and we have not observed any material change to the nature or quality of those services in the period since 2016. As a result, our further assessment is that a royalty fee is not an appropriate basis for setting an internal charge in this case.
- 6.118 In a genuine franchisor/franchisee relationship there is a strong interdependency of the performance of the franchisor and the performance of the franchisee. In that circumstance it would make sense for commercial arrangements between the two (which may well include a royalty fee payable by the franchisee to the franchisor) to be such that they seek to optimise their joint performance. But we do not see that interdependency in this case. Airwave Solutions is able to optimise its own performance with the aid of inputs from Motorola such as 'MSI Engineers' and equipment for which there are already separate transfer charges.
- 6.119 For the above reasons, therefore, we have set the level of this internal fee to be zero for the purposes of the profitability analysis.

‘MSI field engineers’

- 6.120 We noted a charge for ‘MSI field engineers’ shown within the August Model – there was a doubling of the internal charge to profit and loss account from around £[<] million per year in years 2016 to 2019 to £[<] million in 2020 and thereafter.
- 6.121 We learned that in fact ‘MSI field engineers’ referred not just to field engineers but also, and more significantly, a contract for hardware and software support that had been renegotiated between Airwave Solutions and Motorola Solutions UK Limited in 2020.⁵⁸⁴ That contract for hardware and software support had previously been negotiated in 2014 when Airwave Solutions was owned by Macquarie. Motorola told us that the 2014 agreement was out of date and it had undertaken an extensive piece of work in order to ascertain what would be an appropriate software support charge for what had become an increasingly aging asset.
- 6.122 We asked Motorola to give us a year-by-year analysis of internal charges for maintenance on two bases: one based on transfer charges and the other based on the costs attributed to maintenance as reported within Motorola’s management accounts for the Airwave Business Unit (ABU). The costs in the management accounts are reported on the basis of the ‘actual expense incurred (labour and repairs)’. We summarise that analysis in Table 6.1 below.

Table 6.1: Internal charges for maintenance costs 2016 to 2021, £ million

	per Airwave Solutions transfer charges basis						per Airwave Business Unit basis					
Contract negotiated with	Macquarie (see Note)				Motorola		Macquarie				Motorola	
	12 months to						12 months to					
Categories	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
'MSI field engineers'	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Software & hardware support	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Total	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]

Note: The contract with Macquarie is dated December 2013 and covers the period from 1 January 2015 to 30 June 2017. [<] The parties to the contract, Airwave Solutions and Motorola, then agreed on 30 June 2017 to extend the duration of the contract to December 2019. [<]

- 6.123 Motorola explained that, in contrast to the approach taken within the management accounts for the ABU, Airwave Solutions’ financial statements also reflected a large component of cost attributable to software licensing and support. That, Motorola explained, covered the upfront costs for software development, labs,

⁵⁸⁴ See Appendix H.

testing etc, and all the support that comes with the right to use Motorola software such as software updates, patches, security updates and engineering support on various levels for troubleshooting, defect resolution and maintenance. Those costs were not, Motorola explained, allocated to the ABU but attributed centrally to Motorola's R&D departments.

- 6.124 Motorola also told us that prices charged from 2014 to 2019 were below fair market price because of a pricing concession offered to Airwave Solutions in 2014 that should have been reversed much earlier.
- 6.125 The documentation created at the time of the renegotiation that Motorola provided to us did not, in our assessment, provide evidence of increased activity levels which would justify the higher level of charge. We gave Motorola an opportunity to make further submissions presenting any additional evidence or analysis that supported the higher level of internal charging. We received no response.
- 6.126 We do not consider that Motorola has submitted evidence sufficient to support its submission that the prices charged from 2014 to 2019 reflected below fair market prices. In our view, the level of charge reflected the outcome of a negotiated bargain between two large and well-informed firms covering the period from 2014 to 2019 inclusive, Macquarie and Motorola respectively. We also note that the sharp increase in charges for software and hardware charges from 2020 onwards (see Table 6.1:) appear to reflect an increased recovery for software overheads, rather than any change in levels of activity or costs of provision (noting that ABU's total costs do not appear to have changed).
- 6.127 In the absence of evidence for increased support activity on the ground, or that previous prices were below the market level, our assessment is that the level of the economic costs should be set at the previous level ie at approximately £[X] million per year for the purposes of the profitability analysis.

Selling, General & Administration (SG&A)

- 6.128 This area covers the routine provision of sales, marketing, distribution and administrative/management services to Airwave Solutions which are centrally provided by Motorola, either regionally through regional hubs or from head office. Such services relate to management, IT, marketing, legal, treasury and cash management, HR, tax, training, procurement, accounting and finance.
- 6.129 Motorola told us that it used a variety of allocation keys (such as sales or headcount) to attribute these costs to the relevant legal entities, including Airwave Solutions, generally with a [X]% mark-up.
- 6.130 We have not seen any evidence to suggest that these transfer charges have not been determined on an objective and arm's length basis. Therefore, we have not

made any changes to the figures for Airwave Solutions that Motorola has given us for the purposes of the profitability analysis.

Equipment

- 6.131 In any one year Airwave Solutions sources up to half its expenditure on equipment⁵⁸⁵ (ie items which are all capitalised in its financial statements) from the rest of the Motorola group. We would expect the internal charges levied on Airwave Solutions to be consistent with those prices payable by independent third parties.
- 6.132 The internal charges the rest of Motorola levies to Airwave Solutions for such equipment are based on either:
- (a) An agreement made in 2012 between Airwave Solutions, then owned by Macquarie and Motorola as set out in the 2012 Price Book; or
 - (b) for items not appearing in that price book, the mark-ups on labour and materials costs reflected in Motorola's costings for its interworking proposal to the Home Office in 2015. In other words, if the item of equipment does not appear in that price book, the internal charge is based on cost mark-ups that were reflected in a proposal to the Home Office.
- 6.133 We note that the Analysys Mason and Deloitte reports indicate that the costs of TETRA (ie LMR) equipment has declined significantly in the last two decades. We are therefore concerned that the use of outdated price books may result in a higher price than justified by market conditions. Furthermore, we observed that the mark-ups proposed to the Home Office on an interworking solution which it could not procure from another source (than Airwave Solutions) might not reflect the competitive level one might expect to see where a purchaser had a choice of suppliers.
- 6.134 We therefore sought to compare the level of the internal charges for equipment levied on Airwave Solutions with those payable by independent third parties. We were only able to do this at an aggregate level because the detailed specification of the equipment Airwave Solutions procures from the rest of Motorola differs from that of other LMR customers.
- 6.135 We therefore asked Motorola to provide us with the mark-up on costs it achieves on its global sales of equipment to third parties in order to compare those with the mark-up on costs it told us it is reflecting within the internal charges to Airwave Solutions for equipment. A comparison of those mark-ups would test whether, as a

⁵⁸⁵ In this context 'equipment' includes not only the equipment itself but any associated labour needed to bring that equipment into use.

whole, prices on sales to third parties are lower or higher, when compared to costs, than those for internal charges.

- 6.136 Motorola provided us with mark-ups analysed for a single bundle of LMR equipment and services.⁵⁸⁶ That analysis showed that mark-ups on costs on third party sales were as a whole generally significantly lower than those mark-ups that Motorola told us were being reflected in the internal charges for equipment – see paragraph 6.132 above for an explanation of the basis of those internal charges.
- 6.137 In order to give ourselves an indication of the magnitude of the difference in the level of charges that would be levied if the level of charging to third parties as a whole were reflected within internal charging, we performed an indicative calculation. We took the materials and labour costs associated with all the internal equipment purchases that Motorola was planning for the Airwave Network over the period 2021 to 2026 (ie a six-year period) as part of the Airwave Network refresh programme and applied to this sum the average mark-up achieved in 2021 by Motorola on sales to third parties of [150 to 200] [%].⁵⁸⁷ Total charges on this basis would come to around £[] million over the period. We then compared this £[] million to the sum of internal charges that Motorola plans to charge for this equipment over the same period. That figure is around £[] million. So, on this basis, the level of charging over a six-year period was roughly £[] million higher than it would be if based on the ‘average’ level of charging to third parties. This difference equates to roughly £[] million a year.
- 6.138 It therefore appears to us that the mark-ups charged by Motorola to Airwave Solutions may be higher than one would expect on a purely arm’s-length basis. However, we recognise that our analysis is only indicative given the difficulties in benchmarking the specific equipment provided to Airwave Solutions that we are interested in against the bundle of equipment and services sold by Motorola globally. Therefore, we have not sought to make any adjustment to Motorola’s internal charges for capital equipment. (However, in coming to a conclusion on the level of forecast capex, we have reviewed Airwave Solutions’ proposed capex programme and made some adjustments. These are discussed in detail in Appendix G.)

Summary of adjustments

- 6.139 The sum of our analysis in the preceding paragraphs is that we have made the following adjustments to the operating expenditure for Airwave Network Services:

⁵⁸⁶ As a result, what Motorola provided us did not isolate third party *equipment* sales. It also included services which utilised that equipment. An example of the latter would be the Airwave contract itself – that is a service which utilises LMR equipment in order to provide the contracted-for service. See Appendix H.

⁵⁸⁷ We simply added the figures we had been provided with across the years 2021 to 2026, ie we did not discount figures that related to later years back to 2021 cash values.

- (a) Reduced the charge for the PCG from £[6.8 to 7.7 million] [X] million to £[0.3 to 0.8 million] [X] million per year from 2019 onwards;
- (b) reduced the charge for strategic support from £[X] million to zero per year from 2019 onwards; and
- (c) reduced the charge for ‘MSI field engineers’ from £[X] million to £[X] million per year [ie roughly by half] from 2019 onwards.

6.140 We have not made any adjustments to the charges for SG&A or to the internal charges for equipment reflected within outturn or forecasts for the Airwave Network refresh programme.

WACC

6.141 Consistent with our approach to the calculation of profits achieved from the operation of the Airwave Network (see paragraph 6.54 onwards), we have estimated the cost of capital for three separate time periods:

- (a) At the start of the ‘historical’ or PFI period, ie around 1 April 2001;
- (b) As of late 2019/early 2020, ie after the original fixed period of the PFI Agreement and at the start of the post-PFI period; and
- (c) As of mid-2023, which is relevant to the charge control period. We do not present the figures for the latter in this section but discuss them in section 8 and Appendix K where we discuss the charge control remedy.

6.142 The detail of our calculations is set out in Appendix J, where we also discuss whether, in light of the risks associated with constructing and operating the Airwave Network, it is appropriate to uplift a WACC to reflect a ‘hurdle rate’ or the risk of loss from an innovative/uncertain investment.

6.143 We summarise the results of our analysis set out in Appendix J in Table 6.2: below.

Table 6.2: Estimates of nominal pre-tax WACC

	Mid-point of estimate for 'PFI' period	Estimate for post-PFI period Base case	Estimate for post-PFI period Sensitivity
			%
WACC	9.1	8.8	14.25

Source: CMA analysis

Results

- 6.144 We set out the calculations underlying the results in Appendix G and our assessment of the relevant WACC for Airwave Solutions is set out in Appendix J.
- 6.145 In Table 6.3 we set out the results for our base case asset value, ie an asset value of £[<] million, as of the end of 2019. We have also considered a sensitivity profitability analysis using a higher 2019 asset value of £[<] million, as well as using a higher WACC of 14.25%. However, as explained above, we do not consider this depreciated replacement cost as the appropriate value on which to base our assessment. Our analysis assumes that the Airwave Network is switched off at the end of 2029.
- 6.146 As stated in paragraph 6.8 above, we made a calculation of supernormal profits,⁵⁸⁸ which are the profits left over after the providers of capital have been paid a market-based return on their investment. This is calculated as the NPV of profits when the IRR is set equal to the WACC. We calculated supernormal profits because their extent (and, consequently, any detriment to customers) is not immediately clear from a percentage gap between IRR and WACC.

Table 6.3: IRR and NPV results 2020-2029, % / £m

Results	<u>Asset value base case</u>	<u>Asset value sensitivity</u>	<u>Combined sensitivities, ie asset value and WACC</u>
NPV £m	1,272	1,168	897
IRR %	629	142	142

Source: CMA analysis.

- 6.147 Our calculations show that, under the base case, we estimate that Airwave Solutions can be expected to make total supernormal profits from the operation of the Airwave Network of around £1.27 billion in the years 2020 to 2029. This is the equivalent to charging almost £200 million per year more than we would expect to see in a well-functioning market.⁵⁸⁹
- 6.148 For completeness, we also calculated the profits achieved from operating the Airwave Network in the period from 2001 to 2019 and estimated that the IRR was around 11%.⁵⁹⁰ We note that this is slightly above the upper end of our WACC

⁵⁸⁸ Economic profits are also called supernormal profits.

⁵⁸⁹ Just under £200 million (£196.5 million) is the amount by which revenues would need to fall per year to bring the IRR in line with our estimated WACC (8.8%), and to reduce the NPV to zero, over the ten-year period 2020 to 2029. We presented an alternative figure in the PDR of £160 million per year, which we calculated as the average annual net present value of operating cashflows (ie excluding all opening and closing lump sums and decommissioning and redundancy costs) of £1.116 billion.

⁵⁹⁰ The range is driven by the range of closing asset values as at 31 December 2019.

estimate for that period but below the [15% to 20%] hurdle rate set in the PFI Model.

Conclusions and Interpretation

- 6.149 Based on the above analysis, we conclude that Motorola is likely to derive supernormal profits in relation to the supply of LMR network services for public safety following the end of the original fixed period of the PFI Agreement, ie for the period from 2020 onwards.
- 6.150 Further, we note that these supernormal profits are:
- (a) Significant in size/scale, in excess of £100 million per year, or almost one third of annual revenue earned by Airwave;
 - (b) Likely to persist. The ability to earn such high returns for a period of a decade suggests a significant failure in the competitive process, ie that these returns are not arising from some transitory factor but rather from a longer-term structural issue; and
 - (c) Not sensitive to any material extent to the range of opening asset values that we have considered. That is to say, even if we were to value Airwave's assets on a depreciated replacement cost approach and apply a 14.25% WACC, ie with a material uplift for revenue uncertainty, we would continue to find significant supernormal profits.
- 6.151 In summary, our assessment of market outcomes suggests a material failure in the competitive process.

7. DECISIONS ON AEC

- 7.1 Under section 134(1) of the Act we are required to decide whether ‘any feature, or combination of features, of each relevant market prevents, restricts or distorts competition in connection with the supply or acquisition of any goods or services in the United Kingdom or a part of the United Kingdom.’ A feature for the purposes of section 134(1) can take the form of the structure of the market and/or the conduct of any of the participants in the market, including customers.⁵⁹¹ We can consider either individual features or a combination of features of a market. ‘Conduct’ includes any failure to act (whether or not intentional) and any other unintentional conduct.⁵⁹²
- 7.2 The framework for our analysis of the product market definition is explained in the final part of section 3 of this final report. We have defined the product market as the supply of communications network services for public safety and ancillary services.
- 7.3 The framework for our analysis of geographic markets is also explained in the final part of section 3 and we have found that the relevant geographic market is Great Britain.
- 7.4 We refer to the defined market in this final report as ‘the market for the supply of communications network services for public safety.’
- 7.5 In the following paragraphs we first provide an overview of our competitive assessment, which is described more fully in sections 4 and 5 of this final report. We then set out the features which, in our judgement, give rise to an AEC in the market and our estimate of the customer detriment resulting from it.

Overview of the competitive assessment

- 7.6 At the centre of our findings is the unique nature of the communication needs of Great Britain’s emergency services. It was decided by the government nearly 30 years ago that, at that time, the emergency services’ needs would be best met through the provision of a highly resilient network covering Great Britain. That network would require its own dedicated infrastructure of base stations and specialist hardware, and dedicated support teams to ensure 24/7 support and rapid recovery from any technical failures.

⁵⁹¹ [The Act, section 131\(2\)](#) and [Guidelines](#), paragraph 155.

⁵⁹² [The Act, section 131\(3\)](#).

- 7.7 Initially, that network would serve police forces, with fire and ambulance services joining later. Once in place, the network would provide essential services which all organisations (and a total of around 300,000 staff) involved in emergency situations would rely upon. It would therefore become a critical piece of infrastructure on which the emergency services in Great Britain, and ultimately lives, depend.
- 7.8 The decision to build a network of the kind described meant that a single supplier would be best placed to provide for the emergency services' needs under long-term contracts including, the government decided, a PFI Agreement. Under these contracts, the supplier could recoup the large upfront investment necessary for the building of the underlying bespoke telecoms infrastructure, and have the chance to earn an estimated rate of return, over the life of the contracts.
- 7.9 Competitive constraints on suppliers in this market, therefore, typically arise through competition for the market, when long-term contracts are first tendered and when they expire (or, more specifically, in anticipation of their expiry when a replacement network or a retender of the existing network is competed for).
- 7.10 The terms of the PFI Agreement under which the Airwave Network operates resulted from the type of process – tendering – that we might expect to provide such competition for the market.
- 7.11 In relation to the original period of the PFI Agreement, the Home Office had the opportunity to run an open competition for a supplier and, as a result, to agree terms that constrained the price of the provision of the network.⁵⁹³ In such a competition, the winning supplier would reasonably have been expected to set the price at a level that would enable it to cover its expected costs and give it the chance to earn a reasonable return for the period of the contract.
- 7.12 There was inevitably uncertainty upfront for the supplier as to whether it would be able to cover its costs and make a sufficient profit margin. However, that was a risk it was reasonably expected to bear, in the same way that it was reasonably entitled to retain any extra profits gained if it delivered its obligations below the expected cost during the original period of the agreement.
- 7.13 The PFI Agreement was for a period ending in 2019.⁵⁹⁴ It provided for a price designed to recoup the supplier's upfront investment required to build the network and offer it the possibility of earning an estimated rate of return over that period, but not beyond. It contained provisions which sought to deal with the end of the

⁵⁹³ Although, as described in earlier sections of this report and in Appendix B, there were some limitations on the extent of the competition that applied and the competitiveness of the outcome, and the NAO reported on these.

⁵⁹⁴ Once all related contract end dates were aligned, having originally been fixed to end when the last of those related contracts ended.

contract and the transfer of assets, with no terms relating to or contemplating its extension.

- 7.14 In a well-functioning market, we might expect that the arrangements made under the PFI Agreement would be replaced, at the end of original period, by: (i) a competitively priced continuation of the operation of the existing network infrastructure (secured, for example, under a retendering process facilitated by the transfer of the assets to the Home Office or by the threat of such a process); or (ii) a competitively priced replacement network offering enhanced functionality (for example, one tendered under a new process). The terms of the PFI Agreement sought to facilitate the former possibility; the Home Office's procurement of ESN sought to achieve the latter.
- 7.15 The position now that the original period of the PFI Agreement has ended, however, is, in our assessment, materially different from that in the earlier period. The key question is whether the terms that continue to apply after 2019 can be regarded as the result of a competitive process and consistent with what we would expect to see in a well-functioning market.
- 7.16 In our view, the terms on which the Airwave Network is provided after 2019 are better characterised as reflecting a virtually unconstrained monopoly position on the supplier's part rather than the result of a competitive process. Prices are established (or maintained without significant variation from previous levels) in bilateral negotiations between Airwave Solutions (the monopoly supplier) and its owner, Motorola, and the Home Office⁵⁹⁵ relating to the extension of the PFI Agreement. In those negotiations, the Home Office has no credible⁵⁹⁶ alternative option in terms of its choice of supply or supplier.
- 7.17 It is noteworthy, in our view, that the terms on which the network is supplied, particularly the price, have not materially changed as we would expect in a competitive market to reflect that: (i) the original period of the PFI Agreement has ended; (ii) the incremental cost of providing the Airwave Network will have fallen significantly compared with the previous period where the supplier had to incur the substantial set-up costs of building the network; and (iii) the risk borne by the supplier is much reduced after 2019 because the network is built and is operating as a reliable income stream.⁵⁹⁷
- 7.18 In other words, the terms of the (extended) PFI Agreement do not reliably constrain the price at which the Airwave Network is provided after 2019. They do

⁵⁹⁵ Acting on behalf of the emergency services.

⁵⁹⁶ By which we mean, as noted elsewhere in this report, options which the Home Office would be in a position in practice to pursue or threaten to pursue, and / or which Motorola would regard as a threat to its ability to set prices, such that the price is likely to be constrained to the competitive level.

⁵⁹⁷ We have noted and considered in section 4 of this report the offer Motorola made to the Home Office in July 2022 to reduce the price, which the Home Office did not accept.

not result in a price or a level of profitability that would be expected in a well-functioning market (see paragraph 7.34 below).

7.19 Key reasons for the present position, in our assessment, are that:

- (a) The network for emergency services communications is critical national infrastructure providing services on which lives ultimately depend, so the Home Office and the emergency services users⁵⁹⁸ must have continuous and reliable access to a high-quality integrated network that meets their operational needs, without disruption or degradation;
- (b) the asset transfer provisions in the PFI Agreement have not resulted in the transfer of network assets to the Home Office, Airwave Solutions continues to own them and acquiring them is not an option the Home Office could credibly pursue or threaten; and
- (c) the government's chosen replacement for the Airwave Network, ESN, is taking considerably longer to implement than was contemplated: (i) when it was procured; and (ii) in 2016 when the parties first negotiated terms that relate to the provision of the Airwave Network after 2019.

7.20 The Home Office and the emergency services in Great Britain are 'locked in' to a monopoly provider, Airwave Solutions, well beyond the duration originally set under the PFI Agreement, and have no other credible choice but to use the Airwave Network for their key communications needs in critical situations. This situation will continue until at least 2026, likely until 2029 and possibly longer.

7.21 Our judgement is that Airwave Solutions and its owner, Motorola, now have considerable market power. In the negotiations between them and the Home Office relating to the continued provision of the Airwave Network beyond 2019, there is a lack of constraint or pressure on the price that would result in it being set at the competitive level. The Home Office is in a particularly weak bargaining position. Airwave Solutions/Motorola can set and maintain a price substantially above the level we would expect in a well-functioning market.

7.22 There are additional factors that in our assessment reinforce Airwave Solutions' and Motorola's market power and the weakness of the Home Office's bargaining position:

- (a) The fact that, in any negotiations, they are negotiating against the default option of the price agreed in 2016, which is very advantageous to Airwave Solutions and Motorola and correspondingly disadvantageous to the Home Office;

⁵⁹⁸ As well as the Sharer organisations.

- (b) the Airwave Network's dependence on Motorola for equipment and upgrades for its ongoing operation;
- (c) the asymmetry of information between the parties; and
- (d) the likely ineffectiveness of the original contractual provisions relating to price benchmarking (and the lack of reliable comparators that make any benchmarking exercise practically very difficult (if possible at all)).

- 7.23 As well as being dependent on the continued provision of the network by Airwave Solutions/Motorola, without disruption or degradation, the Home Office's ability to challenge the terms they propose or maintain is very substantially limited. The Home Office is not in a position to assess the profitability of any price and effectively to challenge its reasonableness. Not only does the Home Office lack bargaining power in the negotiations, but it is not in a position reliably to determine whether, or the extent to which, Airwave Solutions is charging or maintaining (or seeking to charge or maintain) prices that result in supernormal returns.
- 7.24 A further issue relating to Airwave Solutions' and Motorola's roles in the transition to ESN from the Airwave Network is also relevant. Our assessment is that it adds to the competitive distortions in the market.
- 7.25 During the period (estimated to be at least 27 months) in which the transition between them will gradually take place, the Airwave Network and ESN will need to be linked.⁵⁹⁹ This will occur through interworking, which will support communications between various user groups as they switch networks at different times.
- 7.26 The development of an interworking solution to work with the MCPTT application that will be used in ESN relies on the active cooperation of Airwave Solutions and Motorola. Consequently, and notwithstanding the contractual arrangements the parties have made, Airwave Solutions and Motorola have an ability to delay, hamper and/or make more costly the development of any such solution and the transition process. Further, the competition issues described in paragraphs 7.9 to 7.23 above, and the related high profits to be made by Airwave Solutions and Motorola if the transition from the Airwave Network is delayed, dull their incentives effectively and efficiently to help to deliver such a solution.
- 7.27 It therefore appears to us that the current situation, in which charges for the provision of LMR network services for public safety by Airwave Solutions are not subject to meaningful constraints, is the result of a market that is not functioning well.

⁵⁹⁹ Because of the critical nature of network communication services for public safety and the length of the transition period.

AEC in the market for the supply of communications network services for public safety and ancillary services in Great Britain

- 7.28 Taking all of the above points into account,⁶⁰⁰ we find that features of the market for the supply of communications network services for public safety, individually or in combination, prevent, restrict or distort competition in connection with the supply of LMR network services for public safety in Great Britain.
- 7.29 The relevant features which mean that Airwave Solutions, and its owner, Motorola, have unilateral market power and are able, as described further below, to charge prices significantly above the level we might expect in a competitive market and to make supernormal profits, are:
- (a) The Airwave Network is a critical piece of infrastructure on which the emergency services in Great Britain, and ultimately lives, depend.
 - (b) The Airwave Network is the only network of its kind in Great Britain and is provided by a monopolist. No other such networks exist nor are they likely to be constructed and ready for use before ESN (or an alternative network) is able to replace it.
 - (c) The Airwave Network assets have not transferred to the Home Office under the terms of the PFI Agreement, Airwave Solutions still owns them (and the related business) and the transfer of those assets is not a credible option that the Home Office could either pursue or threaten to pursue.
 - (d) The Home Office has tendered and contracted for a replacement network – ESN – but it is taking much longer than anticipated to deliver and replace the Airwave Network. ESN will not be ready until at least 2026, likely 2029 and possibly later.
 - (e) The Home Office and the emergency services in Great Britain are locked in with the incumbent supplier of communications network services – Airwave Solutions (and Motorola) – beyond the period over which prices were, or should have been, constrained by the terms of the PFI Agreement (and Airwave Solutions should have recouped its investment and had a chance to earn a reasonable return).
 - (f) The Home Office has very weak bargaining power.
 - (g) There is asymmetry of information between the parties.

⁶⁰⁰ And as more fully described in this report.

- (h) There is a lack of effective constraints provided by the terms of the PFI Agreement on the price of the provision of the network after 2019, including the benchmarking provisions which are likely to be ineffective.

7.30 In addition, a further feature strengthens and has the potential to prolong the unilateral market power described above: the role of interworking in the transition between the Airwave Network and ESN, which Airwave Solutions/Motorola are able and incentivised to delay, hamper and/or make more costly. This additional feature adds to the AEC we find, but is not determinative of it. In other words, the AEC exists even without this feature.

Customer detriment

7.31 We have considered the nature, and potential scale, of the customer detriment resulting from the AEC we find in the market for the supply of communications network services for public safety.⁶⁰¹

7.32 A detrimental effect on customers is defined as one taking the form of:⁶⁰²

- (a) Higher prices, lower quality, or less choice of goods or services in any market in the UK (whether or not the market to which the feature or features concerned relate); or
- (b) less innovation in relation to such goods and services.

7.33 Our assessment is that the AEC we have identified is likely to result in substantial customer detriment in the market for the supply of communications network services for public safety. That judgement is based on our reasoned estimation of the supernormal profits that Airwave Solutions (and Motorola) can be expected to make until the Airwave Network is switched off at an uncertain point in the future.

7.34 Our estimate is that the AEC we find means that Airwave Solutions, and Motorola, can be expected to make total supernormal profits from the operation of the Airwave Network of around £1.27 billion between 1 January 2020 and 31 December 2029. This is the equivalent to charging almost £200 million per year more than we would expect to see in a well-functioning market.⁶⁰³ Supernormal profits they would be able to generate by making interworking more costly would be additional to this.

7.35 We regard these supernormal profits as:

⁶⁰¹ [The Act, section 134\(4\)](#).

⁶⁰² [The Act, section 134\(5\)](#).

⁶⁰³ See section 6 of this final report.

- (a) A reflection of Airwave Solutions' and Motorola's ability to set and maintain prices very substantially above the competitive level such that the Home Office and the emergency services in Great Britain are paying a much higher price for the provision of the relevant services than if the market were competitive; and
- (b) a reasonable measure of the transfer of welfare from the emergency services, and therefore from taxpayers who fund these services, to Motorola shareholders that can be expected to result from the AEC we have identified.

7.36 As such, they amount to a considerable level of customer detriment, particularly considering that these supernormal profits are accruing to a single supplier over a condensed period of time.

8. REMEDIES

- 8.1 This section sets out the remedies we have decided should be introduced to remedy, mitigate or prevent the AEC, and any detrimental effects on customers that result, and may be expected to result from, the AEC we have identified in the market for the supply of communications network services for public safety in Great Britain:
- (a) The primary remedy is a charge control to remedy, mitigate or prevent the principal detrimental effect resulting from the AEC we have identified on customers, namely Airwave Solutions' (and its owner, Motorola's) ability to price above levels we would expect to prevail in a competitive market (the 'charge control remedy'). We will implement this remedy, which also requires Airwave Solutions to provide certain information to support the operation of the charge control, via an Order.
 - (b) Alongside this, we are recommending to the Home Office that it should, as soon as possible, develop and implement a plan to ensure that by not later than the end of 2029 the supply of communications network services for public safety in Great Britain is:
 - (i) subject to competitive pricing arrangements; or, if this is not feasible,
 - (ii) subject to measures to similar effect (for example, through putting forward legislation to introduce a regulatory function).
- 8.2 The first part of this section summarises the analytical framework used by the CMA for the assessment of potential remedies in market investigations.
- 8.3 The second part of this section considers the remedies we are putting in place. It provides an overview of the remedies, summarises submissions we received in response to the corresponding proposals in our PDR, and sets out our assessment of the issues raised in those submissions.
- 8.4 The third part of this section provides our assessment of other remedy options we have considered but which we have decided not to take forward, including structural remedies, the interworking remedy that was proposed in the PDR and other remedies proposed by the parties.
- 8.5 The fourth part provides our assessment of the effectiveness and proportionality of the remedies package we have decided to put in place. This draws on the analysis set out in Appendix K, which provides our detailed assessment of how the charge control remedy will be applied and, in particular, sets out the:
- (a) charge control design: including the scope, form and duration of the charge control, and the associated review arrangements.

- (b) charge control calibration: that is, the levels at which charge control allowances are to be set.
- (c) reporting and assurance requirements.

8.6 At the end of the section, we set out our final decision on remedies.

Framework for our assessment of potential remedies

8.7 As set out in the Act and in guidance, where we identify an AEC we are required to determine:

- (a) whether we should take action ourselves, or whether we should recommend the taking of actions by others for the purpose of remedying, mitigating or preventing the AEC concerned or any detrimental effect on customers so far as it has resulted from, or may be expected to result from, the AEC;
- (b) where we consider that we should take action ourselves, whether that should be through exercising our order-making powers or through accepting undertakings from parties or, where we recommend that others take action, what they should do; and
- (c) whether a single remedy or a package of two or more remedies is required.⁶⁰⁴

8.8 In coming to a view on potential remedies, the Act requires us to ‘in particular have regard to the need to achieve as comprehensive a solution as is reasonable and practicable to the adverse effect on competition and any detrimental effects on customers so far as resulting from the adverse effect on competition’.⁶⁰⁵

8.9 Remedies can remedy, mitigate or prevent the AEC or its detrimental effects on customers. Our clear preference is to deal comprehensively with the cause or causes of AECs wherever possible, and by this means significantly increase competitive pressures in a market within a reasonable period of time.⁶⁰⁶ However, while generally preferring to address the causes of AECs, we will consider introducing measures which remedy, mitigate or prevent the harm to customers created by competition problems, for example if other measures are not available, or as an interim solution while other measures take effect.⁶⁰⁷

⁶⁰⁴ [Guidelines](#), paragraphs 325–328. Section 134(4) of the [Act](#).

⁶⁰⁵ Section 134(6) of the [Act](#).

⁶⁰⁶ [Guidelines](#), paragraph 330.

⁶⁰⁷ [Guidelines](#), paragraph 333.

- 8.10 In assessing various potential remedy options, we consider their effectiveness and proportionality. In relation to each of those principles, a number of factors are relevant.
- 8.11 With respect to effectiveness, in line with our Supplemental Guidance⁶⁰⁸ we highlight that:
- We assess the extent to which different remedy options are likely to be effective in achieving their aims, including their practicability.
 - We consider the risks associated with different remedy options and will tend to favour remedies that have a higher likelihood of achieving their intended effect.
 - A remedy should be capable of effective implementation, monitoring and enforcement.
 - We will generally look for remedies that prevent an AEC by extinguishing its causes, or that can otherwise be sustained for as long as the AEC is expected to endure.
 - We will also tend to favour remedies that can be expected to show results within a relatively short time.
 - When designing remedies we will consider whether to specify a finite duration – for example, by means of a long-stop date in a ‘sunset clause’ – as part of the design of individual measures. This is a material consideration in relation to behavioural remedies, such as charge controls, in particular, because those remedies are designed to have ongoing effects on business conduct throughout the period they are in force.
 - A sunset clause will generally specify when individual measures cease to have effect, whether by reference to a specific date or a clearly defined future event. A number of considerations may be relevant to our decision whether to specify a finite duration for a measure and the duration of any such ‘sunset clause’, including: (i) the length of time over which the AEC is expected to persist; (ii) the role that the measure is expected to play in tackling the AEC and/or resulting customer detriment; and (iii) the extent to which the measure is expected to become obsolete over time. Whether to include a sunset clause and any sunset date will therefore depend on the circumstances of the case.
 - The duration of an AEC in the absence of an effective intervention by the CMA cannot always be predicted and there will similarly be some uncertainty

⁶⁰⁸ [Supplemental Guidance](#), paragraphs 4.15–4.24.

about the precise timescale over which remedies will be effective. We may nonetheless be able to identify a date or event beyond which we consider it would not be necessary and appropriate to retain a remedy in force and, in these circumstances, we would typically expect to adopt a sunset clause as part of the design of the remedy.

- Consistent with our objective to avoid retaining remedies in force when they are no longer necessary and appropriate, the CMA will also often consider whether remedies should be subject to reviews after certain periods.
- Where more than one measure is being introduced as part of a remedy package, we will consider the way in which the measures are expected to interact with each other.

8.12 In making an assessment of proportionality, we are guided by the following principles. A proportionate remedy is one that:

- is effective in achieving its legitimate aim;
- is no more onerous than needed to achieve its aim;
- is the least onerous if there is a choice between several effective measures; and
- does not produce disadvantages which are disproportionate to the aim.⁶⁰⁹

8.13 Applying these principles in any case usually involves considering different remedy options relative to one another and relative to the possibility of taking no action. We will also apply the principles to the individual measures within a package of remedies as well as to the package as a whole.⁶¹⁰

8.14 In reaching a judgement about whether to proceed with a particular remedy, we will consider its potential effects – both positive and negative – on those persons most likely to be affected by it. We will have particular regard to the impact of remedies on customers, as well as on those businesses subject to them.

8.15 Beneficial effects might include lower prices, higher quality products/services and/or greater innovation. The potential negative effects of a remedy may arise in various forms, for example:

- (a) unintended distortions to market outcomes, which may reduce economic efficiency (including dynamic incentives to invest and innovate) and adversely affect the economic interests of customers over the longer term, as

⁶⁰⁹ [Guidelines](#), paragraph 344.

⁶¹⁰ [Guidelines](#), paragraphs 345–346.

well as unintended effects on other interests that may be relevant in this case, such as public safety;

- (b) implementation costs, ongoing compliance costs, and monitoring costs (for example, the costs to the CMA or other agencies in monitoring compliance); and
- (c) if remedies extinguish relevant customer benefits (RCBs), the amount of RCBs foregone may be considered to be a relevant cost of the remedy.⁶¹¹

- 8.16 There can be cases where the desirable features of a remedy may be in tension with one another. For example, it is beneficial for a remedy to be certain and specific, but the precise period for which it may be required may be uncertain and the greater the specificity of a remedy the bigger the risk of it becoming obsolete (each of which points might suggest that remedies can benefit from a degree of flexibility). We will therefore make a judgement in the round about the effective and proportionate remedy or package of remedies that appropriately responds to the findings in an investigation.
- 8.17 We highlight, however, that where businesses have been found to be making profits persistently in excess of their cost of capital as a direct result of one or more features of the market, and are likely to continue to do so in the absence of intervention, we will not usually give any significant weight to the anticipated reduction of such profits as a negative effect of a remedy.⁶¹²
- 8.18 The remedies we impose could involve taking action ourselves and/or making recommendations to other bodies that they act. We may make such recommendations where it is more practicable, or otherwise preferable, to implement a remedy by that means. That could include where we consider that the legal framework or regulatory arrangements that apply in a market should be changed, and that a recommendation to the government to that effect would be appropriate.⁶¹³
- 8.19 In evaluating the effectiveness of a recommendation as a potential remedy, we will form a view on the likelihood that the recommendation will be acted on and the timescale over which this might be expected to occur. In considering the form a recommendation may take, we will normally consider a range of factors including how any necessary change might be best achieved by the party to which the recommendation is addressed.⁶¹⁴

⁶¹¹ [Guidelines](#), paragraph 351–352.

⁶¹² [Guidelines](#), paragraph 353.

⁶¹³ [Guidelines](#), paragraph 379 and Annex B paragraph 94.

⁶¹⁴ [Guidelines](#), Annex B paragraphs 98 and 100.

Our remedies

The charge control remedy

Description of the remedy

- 8.20 In line with the proposal in the PDR, we have decided that a charge control will be introduced to remedy, mitigate or prevent the detrimental effect on customers of the AEC we have identified, namely Airwave Solutions pricing above competitive levels. In line with our assessment in Appendix K, the charge control will:
- (a) take effect from the commencement date of an Order, which we expect to be in the middle of 2023, and remain in force until the end of 2029, with a review to be undertaken in 2026 (other than where the shutdown of the Airwave Network makes such a review and/or the continued operation of the charge control no longer necessary);
 - (b) apply to the products and services provided by all Airwave Solutions' business lines, with the exception of: Ambulance Bundle 2; Pronto; the Central Control Room Solution (CCCRS); radio terminals (except where part of a managed service); and services associated with the development and provision of any interface solution required for interworking;
 - (c) specify an overall revenue allowance for each year of the control that limits the level at which charges for services within the scope of the control are set (in the manner set out in Appendix K), subject to defined indexation arrangements,⁶¹⁵ and to adjustments as a result of the cost sharing mechanism described below;
 - (d) include a cost sharing mechanism that applies to capex on external (ie non-Motorola sourced) equipment such that Airwave Solutions retains 75% of savings achieved relative to a pre-determined target level for the given year (with the other 25% subsequently returned to customers), and Airwave Solutions bears 75% of any over-spend relative to the target level (with the other 25% passed on to customers);⁶¹⁶
 - (e) require Airwave Solutions to provide information to the Home Office, Airwave Network users and the CMA concerning the evolution of capex plans and spend over time. These requirements include an obligation to respond in full, and in a clear and timely manner, to reasonable requests from the Home

⁶¹⁵ The indexation arrangements are set out in Appendix K.

⁶¹⁶ We will consult on the specific means through which these adjustments will take place as part of process of introducing an Order.

Office, users and the CMA for further clarification and substantiation with respect to the information provided; and

(f) specify reporting and assurance requirements.

8.21 The revenue allowances that will be provided for under the charge control (subject to the application of defined indexation and cost-sharing arrangements) are summarised in Table 8.1, and the basis upon which these revenue allowances were determined is set out in Appendix K.

Table 8.1: Revenue allowances under the charge control (subject to indexation and cost-sharing arrangements)⁶¹⁷

£million

	2023	2024	2025	2026	2027	2028	2029
Allowed revenue	217	220	219	216	213	209	204

Source: CMA analysis

Notes: The allowed revenue figures shown in the table are subject to the indexation and cost-sharing adjustments set out in Appendix K.

8.22 Once indexation is taken into account, the introduction of the charge control is expected to result in Airwave Solutions' allowed revenue for 2023 being around £248 million,⁶¹⁸ which is approximately £[<] million (>40] [<]%) lower than the level forecast by Motorola for that year for the services included within the scope of the charge control (which was around £[<] million).⁶¹⁹ We will implement this remedy, which – as noted in paragraph 8.20 – also requires Airwave Solutions to provide certain information to support the operation of the charge control, via an Order. Once implemented, the effect will be that the existing pricing arrangements in the PFI Agreement are amended and supplemented, and Airwave Solutions will be required to comply with the charge control when setting its charges. The charge control will be applied to the remainder of 2023 on a forward-looking basis from the commencement date of the Order.

How the charge control remedy contributes to addressing the AEC and resulting customer detriment

8.23 The charge control remedy will limit what Airwave Solutions is allowed to charge its customers for those services included within the scope of the control. While the charge control does not address the underlying cause of the AEC we have

⁶¹⁷ A breakdown of how these revenue allowances were determined is provided in Appendix K. As set out in Appendix K, the allowed revenue figures to be included in the Order implementing the remedies set out in this final report will be based on a WACC estimate that has been updated to reflect the latest available relevant ILG yield data at the time the Order is put in place.

⁶¹⁸ As set out in Appendix K, this estimate applies inflation assumptions to the £217 million figure shown for 2023 in Table 8.1.

⁶¹⁹ Revenue forecast calculated by deducting forecast revenues for PRONTO, CCCRS and Ambulance Bundle 2 from Motorola's forecast of Airwave Solutions' 2023 turnover (based on Motorola response to Q20 of CMA RFI dated 16 December 2021). [<]

identified, it will remedy, mitigate or prevent the customer detriment resulting from that AEC.⁶²⁰ Our assessment of the effectiveness and proportionality of the charge control remedy and the remedies package as a whole is set out in paragraphs 8.126 to 8.174.

Issues raised in response to the PDR

- 8.24 This sub-section provides a summary of submissions related to the proposal set out in the PDR that a charge control should be introduced and sets out our assessment of those submissions. Our consideration of these issues is organised to address the following themes:
- (a) the legitimacy of introducing a charge control given existing contractual arrangements;
 - (b) the complexities associated with introducing a charge control; and
 - (c) risks associated with service quality under a charge control.
- 8.25 More detailed submissions concerned with how a charge control might be applied and calibrated are considered in Appendix K. Submissions related to the scope for other remedies to be introduced instead of a charge control are assessed in paragraphs 8.76 to 8.125. Submissions related to the effectiveness and proportionality of the charge control remedy are assessed in paragraphs 8.126 to 8.174.

The legitimacy of introducing a charge control given existing contractual arrangements

Parties' submissions

- 8.26 Motorola said that the charge control remedy proposed in the PDR would amount to a forced expropriation in breach of Article 1 of the First Protocol of the European Convention on Human Rights (ECHR), as incorporated into English law by the Human Rights Act 1998.⁶²¹
- 8.27 Motorola also said it had a legitimate expectation that it would not be deprived of the benefit of the Airwave contract until termination in accordance with its terms.⁶²² Specifically, Motorola submitted that it acquired Airwave Solutions, 'on the basis of a legitimate expectation following clear Home Office representations (and subsequent agreement) as to the terms on which the Airwave network was to be provided. If the CMA rewrites the Airwave contract and creates a regulatory

⁶²⁰ [Guidelines](#), Annex B, paragraph 86.

⁶²¹ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 1.16.

⁶²² [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 1.16.

regime, this will be a clear breach of Motorola's legitimate expectations created when both bodies (the Home Office and the CMA) gave their unconditional consent to the Airwave Acquisition.'⁶²³ Motorola also submitted that the proposed charge control remedy would be 'particularly egregious since Airwave is not entitled to terminate the contract other than on very limited grounds.'⁶²⁴

- 8.28 In addition, Motorola submitted that intervening in the pricing of Airwave Solutions' services would undermine trust in contracting with the UK Government, and that this outcome would, if realised, potentially impose various costs (monetary and non-monetary) across British society.⁶²⁵

Assessment

- 8.29 In essence, Motorola submissions under this heading go to the proportionality of the charge control remedy.⁶²⁶ Our detailed assessment of the proportionality of the remedies package we have decided to put in place is set out in the fourth part of this section.
- 8.30 In this subsection, we address two specific points raised in Motorola's submissions: (i) the alleged breach of Motorola's property rights under the European Convention on Human Rights ('ECHR'); and (ii) the alleged existence of on the part of Motorola of a 'legitimate expectation' that it would not be deprived of the benefit of the Airwave contract.

Motorola's ECHR rights and interplay with our proportionality assessment

- 8.31 Motorola submitted that the charge control proposed in the PDR, in addition to being disproportionate, would 'also amount to a forced expropriation in breach of Article 1 of the First Protocol' ('Article 1P1') of the ECHR⁶²⁷ because Motorola is 'entitled to peaceful enjoyment of the contract'.
- 8.32 Article 1P1, under the heading 'Protection of property' provides:

Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the

⁶²³ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 2.28. The 'unconditional consent' by the CMA referred to by Motorola means the decision by the CMA in 2016 not to refer the completed acquisition of Airwave Solutions by Motorola to an in-depth investigation under the merger control provisions of the Act.

⁶²⁴ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 2.28.

⁶²⁵ For example, in: Motorola's response to Q1a of the Remedies questions dated 1 February 2022. [3<]

⁶²⁶ To the extent that they relate to the existence of an AEC, our substantive analysis of whether there are features in the relevant market giving rise to an AEC is set out in preceding sections of this report. As set out in section 7, we have identified an AEC in the market for the supply of communications network services for public safety in Great Britain.

⁶²⁷ Which was incorporated into English law by the Human Rights Act 1998 ('HRA').

public interest and subject to the conditions provided for by law and by the general principles of international law.

The preceding provisions shall not, however, in any way impair the right of a State to enforce such laws as it deems necessary to control the use of property in accordance with the general interest or to secure the payment of taxes or other contributions or penalties.

- 8.33 At the outset, it should be noted that the charge control remedy does not force Motorola or Airwave Solutions to divest the Airwave Network. In compliance with our statutory duty ‘to remedy, mitigate or prevent any detrimental effects on customers so far as they have resulted from, or may be expected to result from, the adverse effect on competition’⁶²⁸ that we have identified, the charge control remedy is designed to remedy, mitigate or prevent the principal detrimental effect on customers resulting from the AEC we have identified: namely Airwave Solutions’ (and its owner, Motorola’s) ability to price above levels we would expect to prevail in a competitive market. Such action is taken by us in the public interest and subject to conditions provided for by law.
- 8.34 Further, it must be recalled that the established framework of assessment used to assess the proportionality of remedies in market investigations safeguards the rights affected parties enjoy under Article 1P1. This fact was recognised by the CAT in its judgment in *BAA v CC*:
- (1) Sections 134(4) and (6) and 138(2) and (4) of the Act [...], read together, require that any remedies that the [CMA] recommends or adopts must be reasonable, practicable and – subject to those parameters – comprehensive;
- (2) In light of the relevance of the Convention right in Article 1P1 in this context, section 3(1) of the HRA requires that sections 134 and 138 should be read and given effect in a way compatible with that [ECHR] right, which means that any such remedies must satisfy proportionality principles.[...] ⁶²⁹
- 8.35 The applicable proportionality test applied for the assessment of remedies in market investigations is set out in the Guidelines and summarised at paragraph 8.12 above.⁶³⁰
- 8.36 It is this test which we have applied in this market investigation to determine whether the proposed remedy package, including the charge control remedy, is

⁶²⁸ Section 138(2)(b) of the Act.

⁶²⁹ [BAA v CC](#) [2012] CAT 3 at paragraph 20.

⁶³⁰ Which is based on the CAT’s judgment in [Tesco v CC](#) [2009] CAT 6, which held at paragraph 137 ‘... the measure: (1) must be effective to achieve the legitimate aim in question (appropriate), (2) must be no more onerous than is required to achieve that aim (necessary), (3) must be the least onerous, if there is a choice of equally effective measures, and (4) in any event must not produce adverse effects which are disproportionate to the aim pursued’; drawing on the formulation by the European Court of Justice in Case C-331/88 [R v Ministry of Agriculture, Fisheries and Food, ex p. Fedesa](#) [1990] ECR I-4023 at paragraph 13.

proportionate to remedy, mitigate or prevent the substantial detrimental effect on customers that we have determined result from the AEC we have identified. The application of this test safeguards Motorola's and Airwave Solution's rights under the Act and Article 1P1.

Motorola's alleged legitimate expectations

- 8.37 To the extent that Motorola uses the term 'legitimate expectation' as a reference to the public law concept of legitimate expectations, we consider its submissions to be without merit.
- 8.38 This is because Motorola has not advanced a coherent argument that a public authority has, by a promise or practice, conferred on Motorola a legitimate expectation of a procedural or substantive benefit that would be frustrated by the subsequent action of that public authority in a way that would be so unfair so as to amount to an abuse of power.⁶³¹
- 8.39 Any such argument necessarily fails because – even if the Home Office had conferred a legitimate expectation on Motorola (on which see below)⁶³² – the charge control remedy is being imposed by the CMA, which has conferred no such expectation on Motorola.⁶³³
- 8.40 We note in this regard Motorola's reference to the CMA's 2016 decision not to refer the completed acquisition of Airwave Solutions by Motorola to an in-depth phase 2 investigation under the merger control provisions of the Act. We have already, in Section 4 of this report, addressed Motorola's submissions on the alleged 'assurances' it could reasonably have taken from the CMA's 2016 decision. We consider without merit Motorola's submission that the CMA's 2016 phase 1 merger control decision amounted to an assurance giving rise to a legitimate expectation that the CMA would not in 2023 interfere under the market investigation provisions of the Act with the pricing arrangements in a contract to which one of the 2016 merger parties was a party.
- 8.41 As regards Motorola's expectations in a more 'colloquial' sense, we observe that the original PFI Agreement and the subsequent contracts, all envisaged the end of the operation of the Airwave Network as of late 2019 / early 2020. This remained the case following Motorola's acquisition of Airwave Solutions in 2016, at which

⁶³¹ As to the constituent elements of the public law concept of legitimate expectations see the Privy Council judgment in [Paponette v Attorney General of Trinidad and Tobago](#) [2012] 1 AC 1 at paragraph 37 as applied in the English courts eg in [R \(Patel\) v General Medical Council](#) [2013] 1 WLR 2801.

⁶³² As regards to the possibility (or otherwise) of contractual promises given by a public authority being capable of giving rise to a legitimate expectation see [Dudley Muslim Association v Dudley Metropolitan Council](#) [2015] EWCA Civ 1123.

⁶³³ An assurance giving rise to a legitimate expectation must be made by the same authority against which it is sought to be enforced. See [R \(Bloggs 61\) v Secretary of State for the Home Department](#) [2003] 1 WLR 2724 (CA) at paragraph 38.

time the 'ragged edge' of contracts were aligned to 31 December 2019. The Home Office provided no guarantees of further revenues beyond that point and, had ESN been delivered and the transition between networks completed on time, there would likely have been no such further revenues for Airwave Solutions.

- 8.42 Further, the charge control remedy will apply from a commencement date during 2023 through – potentially – to the end of 2029. That is, it will be introduced, on a forward-looking basis, more than three years into an (unforeseen) extension period, and (absent the shutdown of the Airwave Network ahead of that time) will constrain prices through to what would be a decade beyond the end-point for the operation of the Airwave Network that had been envisaged when the original PFI Agreement was struck.
- 8.43 In line with our assessments in Section 4, we consider prevailing price levels during this extension period to have been set through negotiations between the parties in a context where the Home Office has been dependent on the Airwave Network and had no credible options that would constrain the price of Airwave Network services to the competitive level.
- 8.44 In these circumstances, we do not consider that an intervention, following an in-depth market investigation, to limit the prices charged to address the supernormal element of Airwave Solutions' / Motorola's profits during this unanticipated extension period and otherwise leaving the terms of the original contracts unchanged, is an inappropriate use of the CMA's statutory market investigation powers, or would be likely to undermine trust in contracting with the UK Government and thereby impose unintended costs on British society. On the contrary, having identified an AEC and substantial customer detriment resulting from it, the CMA is taking action in the public interest in line with its statutory duties.⁶³⁴

The complexities associated with introducing a charge control

Parties' submissions

- 8.45 Motorola submitted that setting a charge control would be complex and resource-intensive, and would create risks and distortions.⁶³⁵ In this context, it noted that Ofgem's price control on Great Britain electricity distribution was timetabled to take over two years to implement, and that in the private healthcare market investigation the CMA decided it did not have the resources available to do the necessary work to introduce a price control and would have needed to set up an independent body in order to have been able to do so.⁶³⁶ Motorola said that the

⁶³⁴ Section 138(2)(b) of the Act.

⁶³⁵ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 1.14.

⁶³⁶ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 1.14.

CMA could not credibly claim that, in relation to Airwave, the position would be less complex, create fewer distortions and risks, or require fewer resources.⁶³⁷

Assessment

- 8.46 We recognise that charge controls can be complex remedies that require careful development and application, and our detailed assessment of charge control design and calibration issues is set out in Appendix K. We have considered the design and calibration of the charge control arrangements as part of our remedies development work over a 15-month period, that included consultation on:
- An overview of possible remedies, including potential forms that a charge control might take, in our December 2021 issues statement.⁶³⁸
 - A description of our then ‘current thinking’ that – if an AEC were to be identified – a charge control should be applied, and of our then current thinking on a range of key charge control approach and design matters, in our May 2022 potential remedies working paper.⁶³⁹
 - A detailed description of a proposed charge control, and the basis upon which it had been developed, in our October 2022 PDR.
- 8.47 The development of the charge control remedy was informed by expert input from Real Wireless on some technical matters, and from John Earwaker of First Economics on charge control design issues. To support our assessment, we obtained a significant amount of information from Motorola on its views with respect to the likely level of relevant costs over time, and the assumptions which underpinned those views. We took evidence of Airwave Solutions’ outturn costs, and Motorola’s own forecasts of relevant costs over time, as our starting point, and made adjustments to Motorola’s views of relevant costs only where we considered there to be a strong case for doing so on the balance of available evidence.
- 8.48 The revenue allowances provided for under the charge control remedy were determined based on a widely used framework which includes identifying appropriate provisions to be made for operating expenditure, capital expenditure, an opening asset value, an assumed depreciation profile, and an allowed return on capital. This provided a transparent basis for specifying the set of assumptions and calculations that underpinned the calibration of the charge control proposed in the PDR and provided an opportunity for Motorola – and other interested parties – to make submissions on each aspect of the charge control determination process where it considered it would be more appropriate for an alternative approach

⁶³⁷ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraph 1.14.

⁶³⁸ [Issues statement](#), 13 December 2021.

⁶³⁹ [Potential remedies](#), 16 May 2022.

and/or view to be adopted (if a charge control were to be introduced), setting out why that was the case.

8.49 We considered carefully Motorola's submissions on the charge control proposed in the PDR, and – as is set out in detail in Appendix K – the charge control remedy reflects a number of material adjustments that have been made in the light of the further evidence and reasoning provided in those submissions. These changes include the following:

- The provision for opex has been increased (from 2024 onwards) by around £[X] million per year, to take account of evidence Motorola provided on the scale of charge increases it may face in relation to Airwave Solutions' access to [X].
- Indexation of the opex provision was adjusted such that it would include a 50% weighting on movements in RPI (and 50% CPI), to take account of evidence from Motorola on Airwave Solutions' input costs (including the extent to which those costs were subject to RPI indexation).
- After further consideration, and in the light of Motorola's submissions, the treatment of decommissioning (and associated redundancy) costs was changed such that Airwave Solutions will be allowed to recover such costs (on the basis of an independent engineering assessment) as part of final settlement arrangements provided for under the charge control.
- In the light of new information on Airwave Solutions' capex level for 2022, Motorola's April 2022 forecast was used as the starting point for determining an appropriate provision for capex requirements. This included some additional capex relative to the forecast used for the PDR assessment.
- The charge control remedy includes provision for a capex risk budget equal in size to that which Motorola had itself included in the capex forecasts it provided us with in April 2022. This £[X] million provision had been excluded from the charge control proposed in the PDR to reflect concerns we identified over the potential for double counting. As set out in Appendix G, having considered the submissions and evidence provided in response to the PDR, we considered the inclusion of this amount to be an appropriate way of taking uncertainties of capex requirements into account.
- The charge control remedy includes a materially higher allowed return on capital to that proposed in the PDR, reflecting both recent movements in interest rates and our assessment that it was appropriate to set the allowed return at the upper end of the cost of capital range we had identified. As set out in Appendix J, we considered it appropriate to adopt a cautious approach to reflect the importance of Airwave Solutions' incentives to invest

appropriately in this mission-critical network over the period of the charge control so as to continue to deliver the required levels of service.

- 8.50 In relation to some parts of the charge control remedy (including an adjustment related to Motorola's internal assessment of options to address the retirement of BT's Megastream product), we were not persuaded by Motorola's submissions that it was appropriate to make changes to what was proposed in the PDR. In relation to some other parts of the charge control – including the transfer charging adjustments we made when identifying an appropriate 'base' opex figure for 2021 – Motorola made no substantive submissions in response to the PDR, and our further review of the evidence did not identify any material change to the approach that had been proposed in the PDR as merited.
- 8.51 We consider that (as set out more fully in Appendix K) the approach we have adopted provides a robust basis for guarding against the risk of the charge control being set too tightly (where 'too tightly' would mean that the charge control would not allow Motorola – if operating efficiently – to expect to earn a return from the provision of the relevant services consistent with competitive conditions).
- 8.52 We note Motorola's comments on the time and resources that are required for the development of charge controls, and the energy and private healthcare comparisons it made. We would observe that the charge control remedy relates to a single, monopoly provider: Airwave Solutions. The Ofgem and private healthcare examples that Motorola referred to involve/would have involved separate controls being set for a significant number of companies that differ/differed in a range of material ways. We also observe that the charge control remedy focuses almost exclusively on determining an overall level of revenue that Airwave Solutions should be allowed to earn from the provision of relevant services, the required characteristics of which are already contractually defined. By contrast, many charge controls can include much broader sets of provisions that may relate to matters such as the specification of service levels and quality requirements, and the allocation of material sources of volume risk.
- 8.53 We also note that the approach we have taken to charge control design and calibration has been informed by timing and resource constraints facing the CMA in applying the markets regime. For example, sectoral regulators often direct substantial resources over time at efforts to develop ways of assessing relevant costs that are more independent of individual firms that they regulate. This can include the development of cost models of the kind that Ofcom has used extensively over time, and the development of cost benchmarking across companies (and – prior to that – to develop information gathering arrangements that are sufficient to underpin such efforts) that Ofgem has used widely. In this investigation, in line with the description above (and in Appendix K), we have adopted the more analytically straightforward (and less resource intensive) approach of using Motorola's own outturn and forecast costs as our starting point,

and making adjustments to that starting point only where we considered there to be a strong case for doing so.

Risks associated with service quality under a charge control

Parties' submissions

Motorola's views

- 8.54 Motorola submitted that the charge control proposed in the PDR would result in 'unsustainably low levels of revenue' and described it as 'utterly inappropriate and draconian', and 'potentially catastrophic'.⁶⁴⁰ Motorola said it would turn 'mission-critical communications infrastructure for the emergency services into a regulated utility whose assets can be sweated with scant regard for the risks and uncertainties associated with the need to maintain a robust and reliable network'.⁶⁴¹

Home Office views

- 8.55 In its response to our PDR, the Home Office said it agreed that a charge control should be introduced,⁶⁴² but submitted that additional measures were required to protect against a deterioration in service quality, given Motorola's incentives under the charge control proposed in the PDR.⁶⁴³ The Home Office referred to a letter it had been sent on 25 October 2022 from [redacted], for Motorola Solutions, Inc., which included the comment that: '[redacted]'.⁶⁴⁴ The Home Office said it was treating this comment as a clear warning from Motorola that it may reduce or stop investment in the Airwave Network, impacting quality of service and asset stewardship.⁶⁴⁵

The National Fire Chiefs Council's views

- 8.56 The NFCC said it was supportive of relevant remedies subject to (among other things) any change from the current position not detrimentally affecting the continuity of service, levels of service, security and resilience of the current mission critical Airwave and future ESN systems.⁶⁴⁶ The NFCC provided us with a

⁶⁴⁰ [Motorola's submission, Sundry points arising from the 10 January 2023 Hearing, 3 February 2023](#), paragraph 2. [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 5.7. [Motorola's submission, why a charge control is not the answer](#), 4 January 2023, paragraph 4.

⁶⁴¹ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 5.7.

⁶⁴² [Home Office's response to the CMA's Provisional Decision Report](#), 22 November 2022, paragraph 1.11.

The Home Office's submissions on how the charge control should be applied are summarised in Appendix K. ⁶⁴³ Further detail on the Home Office's submissions related to service quality is provided in Appendix K.

⁶⁴⁴ An excerpt from this letter was included in: [Home Office's response to the CMA's Provisional Decision Report](#), 22 November 2022, paragraph 1.14(f).

⁶⁴⁵ [Home Office's response to the CMA's Provisional Decision Report](#), 22 November 2022, paragraph 1.14(g).

⁶⁴⁶ [NFCC's response to the CMA's Provisional Decision Report](#), 15 December 2022.

letter dated 5 January 2023 from [redacted], Motorola Solutions UK Ltd, which included the comment that if the charge control proposed in the PDR were introduced:⁶⁴⁷

...on a purely practical level this will undermine Motorola's ability to operate one of the largest and most complex TETRA networks in the world. Refreshing and future-proof [sic] Airwave's ageing infrastructure while maintaining the stringent service levels our users rightly expect for effectively **no return** is no more viable for us than it would be for any business in this sector. (emphasis in original)

Assessment

- 8.57 We take seriously and have considered carefully the risk that remedies that address any competition concerns might have unintended consequences, including on the quality of service and safety. At the same time, we note that maintaining service quality and safety should not, in a well-functioning market, be dependent on a supplier having the ability to set prices above the competitive level.
- 8.58 We asked Motorola about comments made in its 25 October 2022 letter to the Home Office at its Response Hearing, and Motorola said that its comments were not about withdrawing investment, but rather trying to 'get out' of the business (if a charge control in line with that proposed in the PDR were introduced).⁶⁴⁸ When we asked Motorola if it envisaged any circumstances where – given the charge control proposed in the PDR, and assuming it remained in the contract – it would seek to reduce service quality, [redacted] replied 'no'.⁶⁴⁹ Nevertheless, we consider some comments Motorola has made in the course this investigation,⁶⁵⁰ including those shown in paragraph 8.56, to have been consistent with the Home Office's concerns with respect to asset stewardship risks under charge control arrangements.
- 8.59 Our conclusion is that the charge control remedy provides an effective and proportionate means of managing these risks. As is summarised below, and set out in further detail in Appendix K, it does this in three main ways.
- (a) Through the calibration process used to set the charge control at a level enabling Airwave Solutions to expect to earn a return consistent with competitive conditions while ensuring appropriate service levels are maintained.

⁶⁴⁷ NFCC submission to the CMA, 23 February 2023. [redacted]

⁶⁴⁸ Motorola Response hearing with the CMA on 10 January 2023. [redacted]

⁶⁴⁹ Motorola's Response hearing with the CMA on 10 January 2023. [redacted]

⁶⁵⁰ For example, [Motorola's response to the CMA's working paper on Potential Remedies](#), 30 May 2022, paragraph 5.

- (b) The way in which the charge control has been designed, including the mechanisms it uses to take account of relevant uncertainties.
- (c) The inclusion of information provision requirements related to the evolution of capital expenditure (capex) plans and spend levels over time.

Charge control calibration

8.60 In line with the comments in paragraphs 8.46 to 8.53, and our more detailed assessments in Appendix K, we consider that the approach we have adopted to calibrating the charge control remedy provides a robust basis for guarding against the risk of it being set too tightly, or in a way that might undermine Airwave Solutions' ability to continue to meet relevant service quality requirements. With respect to Airwave Solutions' future capex requirements, in a context where we see the maintaining of appropriate capital expenditure as important to the securing of required service quality levels, we note in particular that:

- (a) The only adjustment we made to Motorola's April 2022 capex forecast, when calibrating the charge control, was to exclude Motorola's forecast of the costs of additional base station upgrades related to Megastream retirement,⁶⁵¹ in a context in which Motorola has confirmed that Airwave Solutions is currently pursuing a lower cost approach to addressing Megastream retirement which would not require these additional base station upgrades. The detailed analysis underpinning this adjustment is set out in Appendix G.
- (b) Motorola's April 2022 capex forecast included a risk budget that provided a [%] uplift on most cost estimates to reflect relevant uncertainties. The charge control remedy includes this risk budget in full (ie at the level identified by Motorola as appropriate in that forecast).

8.61 We note that Motorola submitted a different – and higher – capex forecast at a late stage in the investigation (27 January 2023).⁶⁵² For the reasons set out in our detailed assessment of Motorola's capex submissions in Appendix G, we were not persuaded that this submission should be preferred over Motorola's April 2022 forecast as the basis for allowing for capex requirements in the charge control calibration process.

Charge control design

8.62 The level of capex that may ultimately be required to maintain the Airwave Network over time in line with relevant service quality standards is inevitably

⁶⁵¹ As set out further in Appendix G, Motorola has identified BT's planned retirement of its Megastream product – which provides communications services using legacy technology – as having wide-ranging implications for the Airwave Network.

⁶⁵² Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 3.

uncertain to some extent. Given this, there is a risk that actual capex in a given year may be higher or lower than that included in the forecast we used to determine the level of revenue that Airwave Solutions should be allowed to earn. In line with the comments above, this risk was explicitly taken into account in the calibration process through the inclusion of the capex risk budget (and – as noted in Appendix G – in a number of other ways in Motorola’s forecasting assumptions). However, the design of the charge control includes a number of further risk mitigation mechanisms (which are assessed in detail in Appendix K).

- (a) The cost sharing mechanism means that 25% of any difference between Airwave Solutions’ actual capex on external equipment, and the identified amount assumed under the charge control, will be shared with customers. Given that, if relevant capex were to be higher than had been taken into account in the charge control, Airwave Solutions would bear 75% (rather than 100%) of that ‘over-spend’.
- (b) The charge control remedy includes a review in 2026 which provides an opportunity for capex requirements, and associated revenue allowances, to be assessed again – on a forward-looking basis – in the light of the additional information that is available to that time.⁶⁵³ Given this, while the charge control remedy sets revenue allowances through to the end of 2029, the inclusion of the 2026 review mitigates the risk that changes in circumstances undermine the reliability of the forecasts upon which those allowances were set.
- (c) The charge control remedy includes final settlement arrangements which mitigate relevant risks in a number of ways, including by:
 - Ensuring that Airwave Solutions can recover the levels of capex assumed under the charge control up to the point of the shutdown of the Airwave Network. As noted in Appendix K, this differs from the current arrangements under which Airwave Solutions bears the risk that the shutdown of the Airwave Network occurs before it has been able to fully recover its investments (and earn a normal return).
 - Avoiding the need to determine, in 2023 (or at 2026 review), the allowance it would be appropriate to make for decommissioning (and associated) costs, or for the residual value of relevant assets. As set out in Appendix K, the charge control remedy provides for these matters to be addressed at the relevant point in time (ie on Airwave Network shutdown, or at the end of 2029) through use of an independent engineering assessment.

⁶⁵³ Our assessment of the case for a charge control review in 2026 is set out in Appendix K.

- 8.63 We note that while the factors highlighted above mitigate the risk that Airwave Solutions' actual capex requirements might exceed those allowed for under the charge control, they do not entirely remove that risk. Also, we note that Airwave Solutions would continue to be subject to the existing service standard requirements under such circumstances, and therefore it would be for Airwave Solutions (and Motorola, as the owner of Airwave Solutions) to ensure that service quality requirements are met, including where that would require a higher level of capex than had been allowed for under the charge control. We consider that it is appropriate for Airwave Solutions to retain some of the risk associated with capex overspending, as would be the case with any fixed price contract, as it is well-placed to manage those risks, and that the mitigations we have put in place are sufficient to ensure that the level of risk borne by Airwave Solutions is reasonable and does not create material risks to service quality.
- 8.64 At its Response Hearing, Motorola contrasted the charge control proposed in the PDR with the application of a discount to charge levels, and said that under the discount approach it would still control investment decisions, and would make those decisions based on its experience of what was required.⁶⁵⁴ Motorola made a related comment in response to our follow-up questions, where it referred to uncertainty over its ability to recover investments that went beyond 'those that have been approved ex-ante in the charge control calibration' as implying that 'it would have to make hard choices where it may need to be prepared to accept an increase in the risk to service delivery in order to keep expenditure at a justifiable level'.⁶⁵⁵
- 8.65 We do not consider these Motorola comments to accurately reflect the design of the charge control remedy, or the allocation of risks that the charge control remedy provides for. In particular, we emphasise the following:
- The charge control remedy constrains the levels of revenue that Airwave Solutions will be allowed to recover from Airwave Network services. It does not affect Airwave Solutions' / Motorola's control over investment decisions, and – as noted above – Airwave Solutions will continue to be subject to existing service standard requirements.
 - The calibration of the charge control remedy did not involve any of Airwave Solutions' investments being 'approved ex-ante' and did not include any assessments concerned with how Airwave Solutions should go about meeting its service standard requirements: that is a matter for Airwave Solutions / Motorola at present, and that will remain the case under the charge control. The assessment of Motorola's capex forecasts as part of the charge control calibration process was concerned only with identifying an

⁶⁵⁴ Motorola's Response hearing with the CMA on 10 January 2023. [3<]

⁶⁵⁵ Motorola response to CMA RFI dated 16 January 2023, question 3. [3<]

appropriate allowance to make for potential capex requirements, and the basis upon which that was done is summarised above and set out in more detail in Appendix K.

- 8.66 In line with the above comments, under the charge control remedy, it will be open to Motorola to adopt a different, lower cost approach to that which was used to calibrate the charge control provided this maintains service quality at the required level – and to benefit financially accordingly. As set out in Appendix K, this would not be expected to have any direct implications for the 2026 charge control review unless an appreciable deterioration of service quality had been observed: in which case, the 2026 review would be expected to consider how this ‘non-delivery’ of what had been funded through the charge control should be taken into account in subsequent allowances.⁶⁵⁶

Information provision requirements related to the evolution of capex plans and spend levels over time

- 8.67 In line with the proposal in the PDR, the charge control remedy will include a requirement on Airwave Solutions to provide information to the Home Office, Airwave Network users and the CMA concerning the evolution of capex plans and spend over time. As set out in Appendix K, our view is that this requirement has an important supporting role in improving the effectiveness of the 2026 charge control review (including under the circumstances identified in the preceding paragraph) and as a result helps improve the robustness of the safeguards that are in place to guard against deterioration of service quality, including over time through the deterioration of asset stewardship.

The recommendation remedy

Description of the remedy

- 8.68 Alongside the charge control remedy, we are recommending to the Home Office that it should, as soon as possible, develop and implement a plan to ensure that by not later than the end of 2029 the supply of communications network services for public safety in Great Britain is subject to:
- (a) competitive pricing arrangements; or, if this is not feasible,
 - (b) measures to similar effect (for example, through putting forward legislation to introduce a regulatory function).

⁶⁵⁶ The potential for indirect implications to arise – in particular, if lower than expected capex in the 2023-26 period were to be followed by higher identified capex requirements for 2027-29 – is considered in Appendix K.

How the recommendation remedy contributes to addressing the AEC and resulting customer detriment

- 8.69 As set out in this section, we have concluded that the introduction of a charge control is the only effective remedial mechanism available to remedy, mitigate or prevent the detrimental effects on customers of the AEC we have found. However, we acknowledge that the charge control remedy does not address at source the AEC we have found to arise from Airwave's Solutions' / Motorola's unilateral market power and the other features we have identified.
- 8.70 The recommendation remedy is focused on the AEC itself and recognises that there is scope over the timescale of our charge control for the Home Office to put in place alternative arrangements to the charge control, in order to ensure that the supply of communications network services for public safety is subject to competitive pricing, or measures to similar effect. We have taken into account that the Home Office is the key customer in the relevant market and the government department responsible for procuring the replacement network and/or establishing the arrangements under which a relevant network is provided. It should be in a position in the longer term to resolve the AEC we have identified (for example, by ensuring that an alternative communications network is put in place), or to safeguard against the risk of anti-competitive outcomes arising by taking other measures available to it over this timescale (for example, legislating to put in place a regulatory function).

Parties' submissions in response to the PDR

Motorola's views

- 8.71 Motorola submitted that the CMA appeared to be 'intent on enshrining an absence of competition up to and beyond 2029', through a recommendation to the Home Office that allows for the Home Office to put in place a regulatory function to safeguard against the risk of anti-competitive outcomes resulting beyond 2029.⁶⁵⁷ Motorola submitted that it would be 'difficult to imagine how the CMA could be more disproportionate in relation to a market that can be competed for, has been competed for, and is being competed for in every other developed European jurisdiction than to make a recommendation [...] that includes the prospect of indefinitely replacing competition with an artificially created monopoly regulation'.⁶⁵⁸

⁶⁵⁷ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 1.12.

⁶⁵⁸ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 1.12.

Home Office views

- 8.72 The Home Office said that it welcomed the recommendation proposed in the PDR.⁶⁵⁹ The Home Office said that it has a plan to ensure the supply of communications network services for public safety in Great Britain is, as far as is possible, subject to competitive pricing arrangements, and is in the process of implementing that objective.⁶⁶⁰ However, the Home Office said it was concerned that action (or inaction) by Motorola, for example in respect of services associated with interworking, may delay transition.⁶⁶¹ The Home Office said that, given this concern, while it accepted that there should be a presumption that the charge control ends in 2029, the Home Office asked that there be a review at that time to consider whether that presumption should be rebutted, and the control extended for a further limited period.⁶⁶²

Assessment of issues raised in the parties' submissions

- 8.73 In the PDR we set out our provisional conclusion that we should make a recommendation to the Home Office that it should:
- ‘...as soon as possible, implement a plan to ensure that the supply of communications network services for public safety is subject to competitive pricing arrangements, or measures to similar effect, by not later than the end of 2029.’⁶⁶³
- 8.74 We note that the call for action provided for by this wording could be understood as applying equally to ‘competitive pricing arrangements’ and ‘measures to similar effect’. Having considered this matter further, including in the light of Motorola’s submissions, we have determined that the recommendation should put primary emphasis on the Home Office ensuring there are competitive pricing arrangements in place by not later than the end of 2029, and only if this is not feasible, ‘measures to similar effect’. That is, the reference to ‘measures to similar effect’ can be viewed as providing a ‘backstop’ which recognises the possibility that it may not be feasible for competitive pricing arrangements to be in place by the end of 2029.
- 8.75 As set out in paragraph 8.20, and in line with our assessment in Appendix K, the charge control will be in place until the end of 2029. That is aligned with the time period in which we have identified an AEC as set out in sections 4 and 7. We note the Home Office’s concerns that delays may result in a requirement for Airwave

⁶⁵⁹ [Home Office’s response to the CMA’s Provisional Decision Report](#), 22 November 2022, paragraph 1.13.

⁶⁶⁰ [Home Office’s response to the CMA’s Provisional Decision Report](#), 22 November 2022, paragraph 1.13.

⁶⁶¹ [Home Office’s response to the CMA’s Provisional Decision Report](#), 22 November 2022, paragraph 1.14(d).

⁶⁶² [Home Office’s response to the CMA’s Provisional Decision Report](#), 22 November 2022, paragraph 1.14(d).

⁶⁶³ CMA (2022), [Mobile radio network services provisional decision](#), paragraph 8.4.

Network services beyond the end of 2029. However, we consider that, during the period when the price of the Airwave Network services is limited by the charge control (where otherwise it would not be constrained to a competitive level), the Home Office should ensure that the supply of communications network services for public safety becomes subject to competitive pricing arrangements, or measures to similar effect, over the longer term. That would offer the possibility of addressing the source of Airwave Solution's/Motorola's market power. The Home Office needs to make and execute an effective plan, with appropriate resourcing and programme management processes, which includes robust protections against the risk of anti-competitive outcomes arising should there be a further requirement for Airwave Network services beyond the end of 2029.

Remedies we are not taking forward

- 8.76 This sub-section provides our assessment of remedy options that we are not taking forward and explains the reasoning that underpins these decisions.
- 8.77 The process through which we have assessed potential remedies has included a number of consultation stages. In our December 2021 issues statement,⁶⁶⁴ we described – and sought views on – three broad categories of remedies we had identified as potentially relevant in this case, given the nature of the theories of harm under investigation: price/charge controls; information transparency remedies; and structural separation remedies. We considered these broad categories of remedies further in our May 2022 potential remedies working paper, in which we sought views on our then emerging thinking on the likely effectiveness and proportionality of different potential approaches, and on whether there were other remedy options that it may be appropriate to consider.⁶⁶⁵ We set out our provisional assessment of different potential remedy options in the PDR. We have considered the submissions that Motorola, the Home Office and other interested parties made with respect to potential remedies throughout the course of our investigation.
- 8.78 The potential remedies that we have considered but are not taking forward are:⁶⁶⁶
- (a) an interworking remedy: the introduction of an interworking remedy was proposed in the PDR;

⁶⁶⁴ [Issues statement](#), 13 December 2021.

⁶⁶⁵ [Potential remedies](#), 16 May 2022.

⁶⁶⁶ The Home Office proposed additional measures related to service quality, asset stewardship and financial resilience, which were presented as complements to the introduction of the charge control proposed in the PDR and sought to guard against certain risks related to how Motorola might respond to the introduction of a charge control. Our consideration of these measures is included in our assessment of the charge control remedy in paragraphs 8.57–8.67, and in Appendix K.

- (b) a remedy proposal from Motorola that included a reduction in charge levels based on Motorola's assessment of the gross margins it has earned in recent years across its 'Europe Managed Services' businesses;
- (c) further recommendations to the Home Office with respect to its future procurement activities: Motorola submitted that if the CMA wished to ensure that future competition for the market would succeed in creating a competitively priced and working replacement network, it should examine the causes of ESN procurement failures, and recommend changes that address those causes;⁶⁶⁷
- (d) the divestiture of, or other forms of remedy directed at, Airwave Solutions' CCCRS business: the Home Office proposed that we consider this;
- (e) other structural separation remedies: in the PDR, we identified and set out our provisional assessment of three potential structural remedies:
 - requiring a divestiture of Airwave Solutions;
 - enabling competition to operate and maintain the Airwave Network; and
 - requiring divestiture or prohibition of Motorola's interests in ESN;⁶⁶⁸
- (f) information transparency requirements: as a separate, stand-alone remedy; and
- (g) improvements to benchmarking arrangements: Motorola submitted that it would be disproportionate to ignore existing benchmarking provisions.⁶⁶⁹

An interworking remedy

8.79 An interworking remedy was proposed in the PDR. However, given subsequent developments, including a contractual agreement between Motorola/Airwave Solutions and the Home Office for the provision of a new interworking interface, we have decided not to introduce an additional remedy related to interworking. Our assessment of this matter is set out below.

The interworking remedy proposed in the PDR

8.80 The interworking remedy proposed in the PDR had two parts:

⁶⁶⁷ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraphs 5.4–5.5.

⁶⁶⁸ As noted in paragraph 5.2, since our assessment in the PDR, Motorola entered into an agreement with the Home Office on 19 December 2022 to exit its role in the delivery of ESN.

⁶⁶⁹ Motorola response to the Remedies questions dated 18 February 2022, paragraph 11. [3<]

- (a) an obligation on Airwave Solutions and Motorola to deliver, and/or facilitate the development and delivery of, an alternative interworking solution in a timely and effective manner, and in line with requirements identified by the Home Office, if requested to do so by it; and
- (b) a requirement to provide the services involved in the development and use of the alternative interworking solution on a cost-plus basis.⁶⁷⁰

The December 2022 Interface Agreement

8.81 As was set out in Section 5, on 19 December 2022, Airwave Solutions and the Home Office signed the Interface Agreement. This provides for the provision of an interface in relation to the Airwave Network. A third party supplier (to be appointed by the Home Office) can then provide an interface to ESN, to enable an interworking solution with ESN to operate. An overview of the Interface Agreement, and summary of parties' submissions in relation to it is provided in Section 5.

Assessment

- 8.82 In Section 5, we set out our assessment of Airwave Solutions' ability and incentive to delay and/or make more costly the provision of an effective interface to the Airwave Network. We also set out our conclusion that the position in relation to interworking is liable to strengthen, and has the potential to prolong, the unilateral market power of Airwave Solutions and Motorola by enabling the transition of users from the Airwave Network to ESN to be delayed or hampered and/or made more costly.
- 8.83 In assessing whether an interworking remedy should be introduced, we observe firstly that the charge control remedy – together with the recommendation remedy – will significantly reduce the benefits to Airwave Solutions / Motorola that would be likely to arise from prolonging the life of the Airwave Network and would therefore be expected to materially lessen Airwave Solutions' / Motorola's incentives to act in ways that might make such an outcome more likely. Given this context, we have considered whether any additional interworking remedy would be effective and proportionate.
- 8.84 The interworking remedy in the PDR proposed obligations that were broadly defined, and we invited views on how those obligations might be interpreted and further specified. While we received submissions and advice pointing to the importance of further specification,⁶⁷¹ we did not receive evidence that enabled us

⁶⁷⁰ PDR, paragraphs 8.69–8.75.

⁶⁷¹ [EE's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 1; Note on interworking remedy provided to the CMA by an industry expert, December 2022.

to specify an interworking remedy that we consider would be effective and proportionate. In light of the above, we have decided not to put in place an interworking remedy.

- 8.85 In forming this view, we have taken into account that Motorola and the Home Office have now entered into a contractual arrangement relating to interworking (the Interface Agreement) that substantially mitigates Airwave Solutions' and Motorola's ability to delay, hamper or make more costly the transition to ESN. We recognise – in line with our assessment in Section 5 – that some uncertainty remains as to whether the technical solution set out in the Interface Agreement will deliver an interface that achieves interworking between the Airwave Network and ESN but on balance we consider that it is likely to effectively support the delivery of an interworking solution in a timely manner.⁶⁷²
- 8.86 We observe that the likelihood of delays arising as a result of residual risks will be dependent in part on when limitations with the currently planned technical solution are identified (if they arise), and when an alternative interworking solution was subsequently developed and put in place. Given this, we consider the Home Office to have an important ongoing role in the management of risks of delay to ESN that might arise as a result of technical limitations of the interworking solution provided by the Interface Agreement. By highlighting interface effectiveness risks as they emerge, acting in ways that may facilitate early identification and evaluation of such risks, and developing practical options for the timely provision of an effective overall interworking solution that take account of such risks, the Home Office could lessen the likely adverse effects of the technical interface solution not being effective or timely.
- 8.87 While we have decided not to put in place an interworking remedy we intend to keep the development of the market under close scrutiny – including as part of the charge control review in 2026 – and if there is not a successful outcome on interworking it may be appropriate for the CMA to revisit this assessment.

Motorola's proposed remedy based on a comparison of gross margin levels

- 8.88 At a late stage in our investigation, Motorola submitted an alternative remedy proposal to us under which a reduction in charges would be applied equally across all core and menu Airwave Network services, with existing indexation

⁶⁷² As set out in Section 5, we also recognise that, while we would expect contractual obligations to be performed, contracts can be breached. In this regard, a contractual agreement mitigates the likelihood of detriment but does not remove or resolve our competition concerns altogether. This is because were the contract not to be performed, the Home Office would be required to enforce under it and non-performance would in any event delay the provision of the interface solution. Importantly, however, we have received no evidence from the parties to suggest that the Interface Agreement would not be performed such that we should place greater weight on this risk in the circumstances of this case.

arrangements (based on RPI) applying thereafter through to 2029.⁶⁷³ Motorola said it was reasonable to suppose that a competitive price for the supply of Airwave would be consistent with Motorola's gross margins across its other equivalent managed services operations in Europe, and said it would [~~§~~] reduce its Airwave Network prices to a level that yielded a gross margin of [~~§~~]%, which it said was the lowest gross margin earned by Motorola across its 'Europe Managed Services' businesses from 2019 to 2021.⁶⁷⁴ Motorola said that this would amount to a [~~§~~]% reduction at 2023 prices.⁶⁷⁵

- 8.89 As highlighted in Appendix K, Motorola's proposal included only a very brief and high-level comparison of 'gross margin' figures that included no meaningful consideration of the challenges associated with such comparisons, and very limited information on how the figures it had identified as providing relevant comparators had been derived. Motorola's alternative remedy proposal did not engage with our detailed assessment of the profitability of the Airwave Network set out in the PDR nor with the methodology and calculations that underpinned the provisional charge control as set out in the PDR. It also did not provide evidence to substantiate Motorola's submission that the margins it earns elsewhere are competitive nor that such margins, if applied to Airwave Network services, would reflect a price set at the competitive level for them.
- 8.90 Our view is that the gross margin comparisons which underpinned Motorola's remedy proposal do not provide a reliable basis for making assessments of the level at which the charges for Airwave Network services would be set under competitive conditions. While the charge reductions provided for in Motorola's alternative proposal would reduce the customer detriment we have identified as resulting from the AEC we have found, our assessment – based on our detailed assessment of the profitability of the Airwave Network set out in Section 6 and the detailed charge control methodology and calculations set out in this Section 8 and Appendix K – is that considerable customer detriment would remain if Motorola's alternative remedy proposal were implemented. As a result, we do not consider that Motorola's alternative remedy proposal would be effective in remedying, mitigating or preventing the considerable customer detriment which results from the AEC we have identified. We have, therefore, concluded that Motorola's alternative remedy proposal would not achieve as comprehensive a solution as is reasonable and practicable to the detrimental effects on customers resulting from the AEC we have found.

⁶⁷³ [Motorola's submission, proportionate resolution of a hypothetical AEC as to Airwave Profitability](#), 25 January 2023.

⁶⁷⁴ [Motorola's submission, proportionate resolution of a hypothetical AEC as to Airwave Profitability](#), 25 January 2023.

⁶⁷⁵ [Motorola's submission, proportionate resolution of a hypothetical AEC as to Airwave Profitability](#), 25 January 2023, paragraph 13.

Further recommendations to the Home Office with respect to its future procurement activities

Parties' submissions

Motorola's views

- 8.91 Motorola submitted that a charge control is a remedy of the absolute last resort,⁶⁷⁶ and that there would be no need for a charge control if the cause of the prolonged requirement for the Airwave Network were addressed.⁶⁷⁷ Motorola submitted that the CMA should have examined the causes of the failures that have occurred in relation to the procurement of ESN, and could recommend changes that address those causes.⁶⁷⁸ It submitted that, given that the Home Office had set the termination date for the Airwave Network as 31 December 2026, there was no fundamental reason why the Home Office should not now be expected to reprocure a mobile communications network service for after 2026, whether based on the ESN technology model or on a technology neutral basis.⁶⁷⁹

Home Office views

- 8.92 The Home Office said that Motorola appeared to be under a misapprehension that there was binary choice between: (a) applying a charge control now to curtail the potential for excess profits until the outcome of a competitive process (ie the provision of ESN) was complete; and (b) a mechanism that sought to replicate the ongoing competitive process for the future provision of ESN.⁶⁸⁰ The Home Office submitted that these two remedies were complements, not alternatives, and that a charge control is a necessary 'antidote' to remedy the excess profits that otherwise would be earned by Motorola, but would not prevent a more competitive equilibrium in the future resulting from ESN procurement.⁶⁸¹
- 8.93 The Home Office submitted that it was misleading of Motorola to suggest that the current contract will come to an end in 2026.⁶⁸² The Home Office said that, although the Airwave Network National Shutdown Date is currently 31 December 2026, it will need to be extended, and that the Airwave Network will likely be needed well into the second half of the current decade, potentially to 2029, or

⁶⁷⁶ [Motorola's submission, why a charge control is not the answer](#), 4 January 2023, paragraph 4.

⁶⁷⁷ [Motorola's submission, why a charge control is not the answer](#), 4 January 2023, paragraph 2.

⁶⁷⁸ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraphs 5.4–5.5.

⁶⁷⁹ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 1.11.

⁶⁸⁰ [Home Office's submission responding to Motorola's 'Why a Charge Control is not the Answer' submission](#), 16 February 2023, paragraph 4.

⁶⁸¹ [Home Office's submission responding to Motorola's 'Why a Charge Control is not the Answer' submission](#), 16 February 2023, paragraph 5.

⁶⁸² [Home Office's submission responding to Motorola's 'Why a Charge Control is not the Answer' submission](#), 16 February 2023, paragraph 15.

longer.⁶⁸³ In line with that, the Home Office said it envisaged that a charge control would need to be in place for at least five years, and that this would continue to be the case even if the Home Office were to adopt Motorola's suggested re-tendering approach.⁶⁸⁴ The Home Office submitted that Motorola's proposal for a 'technology neutral' tender 'would do no more than provide Motorola with yet another opportunity to extend its monopoly position by re-bidding a legacy-based proposition, that has already been rejected as out-dated, sub-optimal and too costly', and would be a source of further delay.⁶⁸⁵

Assessment

- 8.94 As part of our investigation, we have examined the relevance of ESN, and its procurement, to the supply of communications network services for public safety, and this included a detailed assessment in the PDR of Motorola's role in the delivery of ESN. However, as we noted in our issues statement, the delivery of ESN is a complex project with many dependencies, and delays, particularly in the early years of the project, that may have been caused by multiple factors.⁶⁸⁶ As set out in paragraph 8.68, we are making a clear recommendation to the Home Office that it should, as soon as possible, develop and implement a plan to ensure that by not later than the end of 2029 the supply of the relevant services is subject to competitive pricing arrangements, or if this is not feasible subject to measures to similar effect. We do not, however, consider the CMA – through this market investigation – to have been well-placed to make more specific recommendations concerning the Home Office's procurement practices or indeed assign responsibility for delays to ESN to Motorola, the Home Office or other parties, and note that other bodies have reviewed those practices in detail, and that further such review activity is to be expected over time.
- 8.95 As set out in paragraph 4.133, it is, however, our view that the delay to ESN, the network procured to replace the Airwave Network, is a feature of the market that contributes to the AEC we have identified. We note the Home Office's submission that – given ESN delay – the Airwave Network will likely be needed well into the second half of the current decade, potentially to 2029, or longer.⁶⁸⁷ However, even if that were not the case, and ESN progress (or progress with an alternative 'technology neutral' tender of the kind Motorola suggests) was such that the Airwave Network could be shut down at the end of 2026, that would not have

⁶⁸³ [Home Office's submission responding to Motorola's 'Why a Charge Control is not the Answer' submission](#), 16 February 2023, paragraph 15.

⁶⁸⁴ [Home Office's submission responding to Motorola's 'Why a Charge Control is not the Answer' submission](#), 16 February 2023, paragraph 15.

⁶⁸⁵ [Home Office's submission responding to Motorola's 'Why a Charge Control is not the Answer' submission](#), 16 February 2023, paragraphs 6 and 8.

⁶⁸⁶ [Issues statement](#), 13 December 2021, paragraph 41.

⁶⁸⁷ [Home Office's submission responding to Motorola's 'Why a Charge Control is not the Answer' submission](#), 16 February 2023, paragraph 15.

addressed the scope for Airwave Solutions to earn supernormal profits ahead of that time. That is, while such progress might potentially affect the duration over which it may be appropriate for a charge control to apply, it would not remove the rationale for applying a charge control over the period up to the end of 2026.

- 8.96 Importantly, and as was noted in paragraph 8.8, when developing remedies, we are required to have regard to the need to achieve as comprehensive a solution as is reasonable and practicable to an AEC we have found, and any detrimental effects on customers resulting from that AEC. Given the scale of the detriment we have identified as likely to arise under the current arrangements, and as set out more fully in paragraphs 8.126 to 8.174, we have concluded that the introduction of a charge control, from a commencement date later in 2023, is an effective and proportionate remedy. As set out at paragraphs 4.270 to 4.284, we consider that the AEC we have identified will continue until 2026 and likely until 2029 and possibly longer. However, the duration over which the charge control remedy will apply takes account of uncertainty over how long the Airwave Network will continue to be required and while it has been set through to the end of 2029, it will cease to apply earlier than that in the event that the Airwave Network is shut down.

Divestiture of, or other forms of remedy directed at, Airwave Solutions' Command Central Control Room Solution (CCCRS) business

- 8.97 In the PDR, we noted that in its response to our potential remedies working paper, the Home Office had said it believed that Motorola was [§<] control rooms, and that this could potentially be addressed through Motorola being required to divest its CCCRS and associated businesses.⁶⁸⁸ We also noted that EE had said that we should consider how the timely development of control room software could be guaranteed, to ensure that there was not a barrier to user organisations adopting ESN.⁶⁸⁹ We invited further views, and evidence, on the extent to which Motorola has the ability and incentive to delay necessary control room upgrades.⁶⁹⁰

The Home Office's December 2022 control rooms submission

- 8.98 The Home Office said that control rooms form a vital part of the overall emergency services mobile land radio environment as they enable communication with individual police officers, ambulance personnel or fire personnel, to manage dispatch and incidents.⁶⁹¹ It noted that control rooms and the associated ICCS services are provided to the Airwave Network user organisations by a range of suppliers, including: APD (now part of NEC), Frequentis, Saab, SSS2, Systel and

⁶⁸⁸ [Home Office submission and response to CMA Working Papers](#), 24 May 2022, paragraph 225. [§<]

⁶⁸⁹ [EE response to Potential Remedies working paper](#), 30 May 2022, page 3.

⁶⁹⁰ CMA (2022), [Mobile radio network services provisional decision](#), paragraph 8.78.

⁶⁹¹ [Home Office's additional submission, control rooms](#), 14 December 2022, paragraph 2.1.

Motorola.⁶⁹² The Home Office said that, in addition to their services contracts with user organisations, all of these key control rooms suppliers, with the exception of Motorola, had agreed additional ‘ESN ready’ / delivery obligations with the Home Office.⁶⁹³ The Home Office said that Motorola CCCRS had refused to enter into any such agreement, meaning that the only terms requiring Motorola to upgrade its control rooms in order to enable transition were those in the individual contracts between Motorola and user organisations, terms which it said were significantly weaker than additional delivery obligations it had agreed with other key suppliers.⁶⁹⁴

- 8.99 The Home Office’s said its concern was that Motorola has the ability and incentive to delay transition to ESN by delaying necessary control room upgrades, and that if even one control room was not upgraded as required, transition completion would be delayed, and the Home Office would have no choice but continue to pay for the Airwave Network.⁶⁹⁵ The Home Office said that this delay may be exacerbated if Motorola CCCRS were to win more control rooms services contracts, and that it appeared to have been doing so by offering its services at a lower price than its competitors.⁶⁹⁶ The Home Office asked us to consider remedies such requirements for separate accounting and avoidance of cross-subsidy, obligations on Motorola CCCRS to provide a timely interface with ESN on a cost-oriented basis, and a possible fallback divestiture remedy.⁶⁹⁷

Motorola’s comments on the Home Office’s submission

- 8.100 Motorola said that there were a number of material inaccuracies in the Home Office’s December 2022 control rooms submission.⁶⁹⁸ Motorola said that its contracts with its current customers required its CCCRS product to be developed so as to be fully compatible with ESN (including any alternative MCPTT application), and that having already made these binding contractual commitments to its customers, it was inappropriate for the Home Office to demand that Motorola enter into a new contract with it.⁶⁹⁹ Motorola said it had entered into a Memorandum of Understanding with the Home Office to ensure it is kept fully updated as to the progression of its control room development programme including sharing plans and technical specifications, and inviting the Home Office to applicable work progress demonstrations with its customers.⁷⁰⁰

⁶⁹² [Home Office’s additional submission, control rooms](#), 14 December 2022, paragraph 2.2.

⁶⁹³ [Home Office’s additional submission, control rooms](#), 14 December 2022, paragraph 2.5.

⁶⁹⁴ [Home Office’s additional submission, control rooms](#), 14 December 2022, paragraph 2.6.

⁶⁹⁵ [Home Office’s additional submission, control rooms](#), 14 December 2022, paragraphs 1.1 – 1.2.

⁶⁹⁶ [Home Office’s additional submission, control rooms](#), 14 December 2022, paragraph 2.10.

⁶⁹⁷ [Home Office’s additional submission, control rooms](#), 14 December 2022, paragraphs 5.2–5.5.

⁶⁹⁸ [Motorola’s comments on the Home Office’s additional submission, control rooms](#), 6 January 2023, p2.

⁶⁹⁹ [Motorola’s comments on the Home Office’s additional submission, control rooms](#), 6 January 2023, p2-3.

⁷⁰⁰ [Motorola’s comments on the Home Office’s additional submission, control rooms](#), 6 January 2023, p3.

Assessment

- 8.101 We note the Home Office's submissions on the importance of control room services for the transition to ESN, and have considered carefully its concern regarding Motorola's potential ability and incentive to delay transition – and extend the life of the Airwave Network – by delaying necessary control room upgrades. However, we have not found there to be sufficient evidence to conclude that there is a competition problem associated with Motorola's CCCRS activities, and therefore conclude that a remedy is not required in relation to this matter. In forming this view we have taken account of a number of factors, including those below.
- (a) There are a range of competing suppliers of the relevant control room services: we note that the Home Office identified six different organisations (including Motorola) as key suppliers,⁷⁰¹ and referred to Motorola as currently having ICCS contracts with five, out of 45, police forces.⁷⁰²
 - (b) It is for users (ie blue light organisations) to make contract award decisions for the relevant services and agree appropriate terms – including in relation to the timely provision of upgrades necessary for ESN transition – in the context of such competition.
 - (c) Contracts that individual users have struck with Motorola for the relevant services have included a term requiring the provision of an ESN compatible / ready product, which those users could seek to enforce if necessary.
 - (d) The Home Office and Motorola have entered into a Memorandum of Understanding that complements the contractual requirements referred to above.
 - (e) The charge control remedy will significantly reduce the benefit to Motorola of extending the life of the Airwave Network.
- 8.102 We note that the Home Office submitted that there is an externality associated with choice of supplier, such that a particular user may not prioritise transition to ESN when choosing between suppliers or seeking to enforce relevant contractual terms (if upgrade delays did arise), even where it would be optimal to do so from the system perspective as a whole.⁷⁰³ While this may suggest some benefit in greater demand-side coordination in the context of relevant contracting and contract enforcement decisions in relation to ESN readiness, we do not consider the Home Office to have provided sufficient evidence of a material competition problem in this respect, and note that the Home Office agreed with our

⁷⁰¹ [Home Office's additional submission, control rooms](#), 14 December 2022, paragraph 2.2.

⁷⁰² [Home Office's additional submission, control rooms](#), 14 December 2022, paragraph 4.2.

⁷⁰³ Home Office response to Question 12 of RFI dated 22 December 2022. [3<]

characterisation of its concern as ‘forward-looking and hypothetical’.⁷⁰⁴ For the reasons set out above, we have concluded that a remedy is not required in relation to this matter.

Other structural separation remedies

8.103 We have considered the potential for a structural remedy to address the AEC we have found, in a context where the precise period over which the Airwave Network will operate remains uncertain, and the charge control remedy could endure until the end of 2029. The following provides our assessment of the three potential forms of structural remedy identified in the PDR:

- Requiring a divestiture of Airwave Solutions.
- Enabling competition to operate and maintain the Airwave Network.
- Requiring divestiture or prohibition of Motorola’s interests in ESN.⁷⁰⁵

8.104 For the reasons set out below, we have not identified a structural remedy that would effectively remedy, mitigate or prevent the AEC we have found in an effective and proportionate manner.

Requiring a divestiture of Airwave Solutions

Parties’ submissions

Motorola’s views

8.105 Motorola said that a divestiture process would inevitably take significant time to carry out, and would be ‘hugely distracting’ and apt to cause disruption during the Airwave Network’s final years of operation, even if a willing buyer could be found, given the expected short life and attendant regulatory uncertainty.⁷⁰⁶ Motorola further submitted that it seemed obvious that structural separation would not address any hypothetical concern with prices charged by Airwave Solutions, unless the CMA’s view was that, absent Motorola’s participation in ESN, the Airwave Network would be switched off more quickly.⁷⁰⁷

⁷⁰⁴ Home Office response to Question 10 of RFI dated 22 December 2022. [3<]

⁷⁰⁵ As noted in section 5, since our assessment in the PDR, Motorola entered into an agreement with the Home Office on 19 December 2022 to exit its role in the delivery of ESN.

⁷⁰⁶ Motorola response to the Remedies questions dated 18 February 2022, paragraph 27. [3<]

⁷⁰⁷ Motorola response to the Remedies questions dated 18 February 2022, paragraph 33. [3<]

Home Office views

- 8.106 The Home Office said that requiring Motorola to divest Airwave Solutions or other activities it carries out related to the roll-out of ESN could provide an effective remedy if an AEC were found in relation to Motorola's ability and incentive to hamper the roll-out of ESN.⁷⁰⁸ However, the Home Office said that before imposing a remedy that required Motorola to divest Airwave Solutions, it would encourage the CMA to investigate and consider potential risks that may arise as a result of such divestiture, and in particular any risks that may erode or diminish the quality of service provided by the Airwave Network.⁷⁰⁹

Assessment

- 8.107 Requiring Motorola to divest Airwave Solutions would not be expected – in and of itself – to provide an effective means of addressing the unilateral market power of Airwave Solutions (and that of Motorola as its owner). Rather, divestiture might be expected to displace rather than solve the competition problem, with the acquirer of the Airwave Network having market power just as Airwave Solutions and Motorola do. A number of the features of the market that we have identified would still exist, such as the Home Office's reliance on the provision of a critical network by a single provider. Such divestiture could also crystallise the financial benefit associated with that market power in the sale price. Accordingly, our view is that this measure would not result in an effective solution to the AEC we have identified or the detriment resulting from it.

Enabling competition to operate and maintain the Airwave Network

- 8.108 As we describe in Section 4, the PFI Agreement includes asset transfer arrangements which contemplate the handover of network assets from Airwave Solutions to the Home Office, the individual customers or to a replacement contractor or contractors in the event of the termination or expiry of that agreement. In principle, this kind of asset transfer arrangement could be used to support the introduction of a new competitive process to determine the terms upon which services would continue to be provided using the existing network infrastructure after a defined future date.
- 8.109 An alternative form of structural remedy could involve specifying obligations in relation to the transfer process (including the basis upon which Motorola would be compensated should transfer be required),⁷¹⁰ in order to enable such a new competitive process to take place.

⁷⁰⁸ [Home Office submission and response to CMA Working Papers](#), 24 May 2022, paragraph 222.

⁷⁰⁹ [Home Office submission and response to CMA Working Papers](#), 24 May 2022, paragraph 223.

⁷¹⁰ Asset valuation issues are considered in Appendix K.

The PDR assessment

- 8.110 In the PDR, we noted that the effectiveness of any such remedy in the present circumstances would be heavily dependent on both the likely attractiveness to the Home Office of seeking to use such transfer arrangements, and the likely intensity of competition that might be expected if the Home Office were to seek bids from alternative potential operators of the Airwave Network at this late stage in its life and with the replacement network on the horizon. Our provisional view was that both of these factors made it unlikely that efforts now to facilitate competition to operate the Airwave Network would provide an effective remedy to the AEC we had provisionally identified.
- 8.111 In forming that view we noted, in particular, the following:
- (a) There may be significant perceived technical and operational risks associated with a process of transferring Airwave Network services to a new operator. We said that this could be expected to provide material incumbency advantages in any relevant competitive process. We observed that the Home Office had told us it had considered the possibility of taking control of the Airwave Network assets at various relatively late stages in the original fixed period of the PFI Agreement (including in 2014 and 2018; and it also considered doing so in 2021), but that on each occasion the option was discarded because it was considered that the likely costs and risks to the continuity and security of mission-critical services far outweighed any benefits that might have been secured.⁷¹¹ The Home Office had said that the cost and risk factors it took into account included, among other things, people retention and availability of necessary expertise, continued dependency on Motorola, and the life-cycle of the TETRA technology.⁷¹²
 - (b) The effectiveness of competitive pressure from alternative potential operators would be heavily dependent on their ability to make credible financial commitments concerning the basis upon which services would continue to be provided. We noted, however, that a potential competitor was likely to be at a material informational disadvantage (relative to Airwave Solutions / Motorola) in relation to both the current condition of the network, and the risks associated with alternative potential capex programmes (which would be expected to depend in part on compatibility with existing network conditions).
 - (c) The performance of an alternative operator may be subject to material ongoing dependencies in relation to Motorola, both because of the risks that may be associated with the transition process of moving to a new operator,

⁷¹¹ Home Office response to the Service Transfer Plan questions dated 18 May 2022, paragraph 28. [3<]

⁷¹² Home Office response to the Service Transfer Plan questions dated 18 May 2022, paragraph 28. [3<]

and because of the extent to which the Airwave Network currently makes use of Motorola-sourced inputs.

- 8.112 We said that uncertainty over the time period for which a new operator might be required to manage the Airwave Network was a highly relevant factor in this context, as there would be uncertain, but likely limited, scope for an alternative operator to be able to recoup the costs it may need to incur to overcome the incumbency advantages liable to stem from the points highlighted in the previous paragraph. Given these points, our provisional view was that taking actions aimed at enabling competition to operate and maintain the Airwave Network would not provide an effective remedy to the AEC we had provisionally identified.

Parties' submissions following the PDR

Motorola's views

- 8.113 Motorola submitted that should the Home Office decide to proceed along a path that required the ongoing availability of the Airwave Network beyond 2026, it could re-tender for this service or negotiate a new contract with Airwave Solutions for the period after 2026, with the outside option of re-tendering – should it not be happy with the outcome of that negotiation – which Motorola said would clearly exist at that point.⁷¹³ Motorola submitted that there was no 'process' barrier to the transfer of the relevant assets,⁷¹⁴ and that the only reason why the market could not work well in the future would be if the Home Office refused to conduct an appropriate competitive tender. Motorola submitted that the obvious remedy – which it said would directly tackle the cause rather than the effect of the market not working well – would be for the CMA to require such a tender.⁷¹⁵
- 8.114 Motorola submissions in support of this view included the following:
- (a) The relevant assets have already transferred three times – from BT to O2 in 2005, to Macquarie in 2007, and to Motorola in 2016 – and that in each case there had been no service interruption or technical or operational problem associated with the transfer.⁷¹⁶
 - (b) There would be 'no doubt as to which assets would form part of the transfer: it would be all of the assets owned by [Airwave Solutions] except' 'a small number of commercial contracts that are unrelated to the provision of the Airwave service'.⁷¹⁷

⁷¹³ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 5.3.

⁷¹⁴ Motorola's letter to the CMA dated 2 March 2023. [3<]

⁷¹⁵ Motorola's letter to the CMA dated 2 March 2023. [3<]

⁷¹⁶ Motorola's letter to the CMA dated 2 March 2023. [3<]

⁷¹⁷ Motorola's letter to the CMA dated 2 March 2023. [3<]

- (c) Any notion of dependency on Motorola as contributing to a failure to use asset transfer provisions is without foundation: Motorola has supplied support services to all of Airwave Solution's prior owners and would continue to do so in the ordinary course.⁷¹⁸
- (d) Incumbency advantages are pervasive in cases of competition for the market, but do not imply that such competition can only take place once, and would thereafter be not possible: bid takers routinely adopt measures that level the playing field.⁷¹⁹

Home Office views

- 8.115 In its response to the PDR, the Home Office said that, should Motorola 'take more aggressive action' in response to the introduction of a charge control, it may be necessary for it – 'as a last resort and only if all else fails' – to seek to terminate the Airwave Network, to acquire the transferable assets, and tender the running of the network to a third party.⁷²⁰ In line with this, the Home Office requested that the CMA consider a remedy that addresses the challenges associated with the PFI Agreement's exit clauses, in particular in respect of the Service Transfer Plan and which assets are transferable on termination and on what basis.⁷²¹

Assessment

- 8.116 We note that – even if Motorola was correct that the potential to re-tender the operation and maintenance of the Airwave Network for the period after 2026 meant that competitive pricing outcomes could be achieved from that point absent any intervention – that would not address the scope for Airwave Solutions to earn supernormal profits ahead of that time. Also, in line with our assessment in the PDR and our view in paragraphs 4.189 to 4.211 and 4.273 to 4.284, we consider there to be a number of factors that would be likely to amount to significant switching barriers or costs for the Home Office, and to give Airwave Solutions / Motorola significant incumbency advantages, such that we do not consider it likely that the possibility of re-tendering the operation of the Airwave Network would be expected to provide for competitive pricing outcomes in the circumstances that are likely to apply at the end of 2026. Our view is that an additional remedy which sought to facilitate such re-tendering by way of a recommendation to the Home Office would be unlikely to be effective in delivering such outcomes.

⁷¹⁸ Motorola's letter to the CMA dated 2 March 2023. [§<]

⁷¹⁹ Motorola's letter to the CMA dated 2 March 2023. [§<]

⁷²⁰ [Home Office's response to the CMA's Provisional Decision Report](#), 22 November 2022, paragraph 1.15.

⁷²¹ [Home Office's response to the CMA's Provisional Decision Report](#), 22 November 2022, paragraph 1.15.

8.117 In making this assessment we have taken into account Motorola's submissions, and in line with our analysis in paragraphs 4.189 to 4.211 and 4.273 to 4.284, would note the following:

- (a) Our judgement is that the circumstances of a mutually agreed sale / acquisition of Airwave Solutions (as occurred when Motorola acquired Airwave Solutions from Macquarie in 2016) are liable to differ materially from those in which the Home Office sought to – or sought credibly to threaten to use its right to – terminate its agreement with Airwave Solutions and to transfer relevant assets and contracts to itself or a third party. In particular, in a mutually agreed sale / acquisition the owner of Airwave Solutions would have an incentive to put in place mechanisms that mitigated the risks identified in paragraphs 4.198 to 4.202, and 8.110 to 8.112, in order to maintain the value of the assets to potential acquirers. The fact that Airwave Solutions has changed ownership three times is clear evidence that relevant risks can be mitigated in those circumstances. However, that does not imply that the position would necessarily be the same under a Home Office imposed asset transfer process, where actions taken to mitigate such risks may tend to diminish the extent of incumbency advantage.
- (b) Motorola's recent submission that there would be 'no doubt' as to which assets would form part of a transfer contrasts starkly with the limited way in which Airwave Solutions' transferable assets have been defined in draft Service Transfer Plans over time (see paragraph 4.89). Also, we note that these comments do not engage with potential complexities associated with transfers of agreements and assets relevant to the provision of Airwave Network services. While Motorola has pointed to the limited annual value of the inputs it provided to Airwave Solutions in 2007, as we noted in the PDR, just over a [X] of Airwave Solutions' capex in 2021 was sourced from Motorola, and for 2019 the equivalent figure was around [X]%.⁷²² Also, as noted in paragraph 8.111, an alternative operator may face significant dependencies on Motorola associated with the transition process.
- (c) Whilst it is commonplace for efforts to be made to lessen the effects of incumbency advantages in the context of competition for the market, that does not imply that those advantages are straightforward to resolve in this context, and we would note that the extent of the attention that can be given to incumbency advantages in relation to competition for the market is indicative of the potential for such advantages to give rise to adverse effects. In this context, we consider uncertainty over the time period for which a new operator might be required to manage the Airwave Network a highly relevant factor, as there would be uncertain, but likely limited, scope for an alternative

⁷²² CMA calculations based on Motorola's response to Q5 of CMA RFI, April 2022. [X]

operator to be able to recoup the investments that may be required to overcome incumbency advantages.

Requiring divestiture or prohibition of Motorola's interests in ESN

8.118 We considered these potential remedy options in the PDR and set out our provisional view that neither would be an effective and proportionate response for us to impose to remedy, mitigate or prevent the AEC we had provisionally identified. As set out in Section 5, since our assessment in the PDR, Motorola entered into an agreement with the Home Office on 19 December 2022 to exit its role in the delivery of ESN, and the dual role is not a feature of the market that contributes to our AEC finding. Given this, we do not consider these options to be relevant to our assessment of effective and proportionate remedies in this investigation.

Information transparency requirements (as a separate, stand-alone remedy)

8.119 As set out in Appendix K, the charge control remedy includes requirements on Motorola to provide information in order to support its effective operation. We separately also considered whether introducing broader transparency requirements would be sufficient in itself to remedy, mitigate or prevent the AEC we have found and the resulting customer detriment.

Parties' submissions

Motorola's views

8.120 In relation to the period up to 2026, Motorola submitted that a financial transparency remedy would be irrelevant (and therefore irrational) as Airwave Solutions' prices had already been set (and so detailed cost information was not required for the performance of the contract).⁷²³ Motorola said that if the current Airwave Network service price were set aside to facilitate a further negotiation in light of financial transparency, it was not clear how there would be any benefit over the existing benchmarking arrangements.⁷²⁴ Motorola also said that a financial transparency remedy would not be required if the CMA were to reset the price, but noted that detailed information may need to be collected and evaluated by whoever would be responsible for setting a revised price.⁷²⁵

8.121 Motorola additionally said that there may be a natural evolution to other forms of contracting in the period after 2026, given current UK contracting principles, and that it would welcome a discussion of what might be a proportionate financial

⁷²³ Motorola response to the Remedies questions dated 18 February 2022, paragraph 19. [3<]

⁷²⁴ Motorola response to the Remedies questions dated 18 February 2022, paragraph 20. [3<]

⁷²⁵ Motorola response to the Remedies questions dated 18 February 2022, paragraph 19. [3<]

transparency remedy in those circumstances.⁷²⁶ Motorola submitted that a model like the US Government contracting model might in principle be an appropriate solution for any future contract, noting, however, that the required cost accounting imposes an additional burden on suppliers.⁷²⁷

Home Office views

- 8.122 The Home Office said that while information transparency requirements might enable it to negotiate on the basis of some additional knowledge, it considered that the benefits associated with this would be marginal.⁷²⁸ It said that information transparency remedies – viewed on a stand-alone basis – would not provide an effective means of addressing the harm caused by AECs, but that information transparency would be required to support a charge control.⁷²⁹

Assessment

- 8.123 Our assessment is that broader information transparency remedies – when viewed on a stand-alone basis – would not provide an effective means of remedying, mitigating or preventing the AEC we have found. In particular, while information transparency requirements may facilitate some degree of improvement in outcomes by better equipping the Home Office to seek more competitive prices in future negotiations, they would only be expected to materially address one of the features (asymmetry of information) we have found to give rise to an AEC in the market. The other features we have identified would continue to exist, including the Home Office's very weak bargaining power resulting from its lack of outside options, and the criticality of the Airwave Network to its users. In line with this, our conclusion is that standalone transparency requirements would not provide an effective alternative remedy to the introduction of charge control arrangements.

Improvements to benchmarking arrangements

- 8.124 We have noted Motorola's submission that existing benchmarking provisions had been agreed between Airwave Solutions and its customers and that it would be disproportionate to ignore these.⁷³⁰ As set out in paragraph 4.264, our conclusion

⁷²⁶ Motorola response to the Remedies questions dated 18 February 2022, paragraph 21. [3<]

⁷²⁷ Motorola also stated that, as the US Government Accountability Office (GAO) website noted, there had been concerns from the US Congress and others that the burden imposed on suppliers may deter companies from competing for federal contracts and that, to work efficiently, such a contractual arrangement must prevent continuous discussions about whether specific cost components are justified and whether costs are correctly measured; in Motorola's view, such ongoing discussions are characteristic of how the Home Office dealt with the ESN contract and were to a large extent responsible for the delays of the programme (Motorola response to the Remedies questions dated 18 February 2022.) [3<]

⁷²⁸ [Home Office submission and response to CMA Working Papers](#), 24 May 2022, paragraph 220.

⁷²⁹ [Home Office submission and response to CMA Working Papers](#), 24 May 2022, paragraph 220.

⁷³⁰ Motorola response to the Remedies questions dated 18 February 2022, paragraph 11. [3<]

is that these provisions are likely to be ineffective in constraining Airwave Solutions' pricing for Airwave Network services to a level we might expect in a competitive market. Efforts could be made to improve the existing arrangements. However, in line with our assessment in section 4, which observes that the arrangements are subject to inherent weaknesses such as the difficulties associated with identifying appropriate comparators, we do not consider that the use of a benchmarking approach would provide an effective remedy to the AEC we have identified.

Other potential remedies

8.125 We have not identified any other available types of remedy that we would expect to be effective.

Effectiveness and proportionality of our remedies package

8.126 This subsection considers the effectiveness and proportionality of our remedies package: the introduction of a charge control, and of a recommendation to the Home Office. We begin by making some preliminary observations. These draw on some elements of the analysis in the paragraphs above and they inform our specific assessment of the effectiveness and proportionality of our remedies package. We then set out that specific assessment.

Preliminary observations

8.127 The purpose of any remedies introduced by the CMA is to address the problem(s) it has identified – to remedy, mitigate or prevent the AEC and / or its detrimental effects on customers. The assessment of their effectiveness and proportionality is designed to help us identify interventions that are likely to:

- (a) achieve that effect; and
- (b) do no more than is required to achieve it.

8.128 We use the framework we described in paragraphs 8.7 to 8.19 above to assist us in making our assessment.

8.129 The nature of the services and the features of the market, and the nature and extent of any competition problem and its detrimental effects, that we find are key considerations in our assessment. They shape the remedies we are likely to regard as effective and proportionate.

8.130 In this case, certain of the features we have identified as giving rise to the AEC are likely, given the nature of the relevant services and of the market, to endure until 2029. For example, until ESN (or an alternative network), or competitive

arrangements, replaces the Airwave Network it will continue to be provided by a single supplier and the Home Office will be dependent on it for critical services without alternative options. In that context, and as we describe in paragraphs 8.103 to 8.118 above, remedies aiming to affect the structure of the market and extinguish the AEC, such as the divestiture of Airwave Solutions, are unlikely to be effective within this timescale.

- 8.131 Our main focus instead is on remedies that remedy, mitigate or prevent the detrimental effects of the AEC. In particular, we have looked to mitigate the detrimental effects of the market power that we found Airwave Solutions / Motorola to have as a result of the features we have identified. In the absence of effective alternatives, we consider behavioural remedies that limit the ability to charge prices above competitive levels to be both effective and proportionate in the circumstances.
- 8.132 In considering those sorts of remedies, both the nature and the scale of those detrimental effects, and the features that cause them, are important. They draw us, in the first place, to the conclusion that we describe in paragraph 8.123 above, that information transparency remedies alone, for example, would not be effective. Such remedies would not remove the Home Office's dependence on the Airwave Network and its very weak bargaining position resulting from its lack of alternative options. Airwave Solutions / Motorola would still be able to charge prices above competitive levels.
- 8.133 Instead, we have concluded that a remedy controlling the outcome – the price charged – would be effective. We observe that the scale of the detrimental effects that we have identified is large. Our assessment is that Airwave Solutions is able to set (and maintain) a price very substantially in excess of the competitive level, reflected in its generation of supernormal profits of around £1.27 billion from the operation of the Airwave Network between January 2020 and December 2029, which is the equivalent to charging almost £200 million per year more than we would expect to see in a well-functioning market. An effective charge control remedy is, in our assessment, a proportionate response to such high prices where it limits those prices to a level we might expect in a competitive market and thereby constrains the scope for Airwave Solutions / Motorola to earn these supernormal profits.⁷³¹
- 8.134 An additional consideration is whether a charge control alone is sufficient to remedy, mitigate or prevent the AEC or its detrimental effects. To the extent that it is not sufficient, additional remedies may be required to address the shortfall, in order to comprise an effective and proportionate package of remedies, likely to be equal to the substantial concerns it seeks to address. We have determined that, in

⁷³¹ See Section 6 of this final report.

addition to the charge control remedy, the recommendation remedy is required to remedy, mitigate or prevent the AEC.

- 8.135 These fundamental points as to the nature and scale of the AEC and the resulting customer detriment, and the likely effective remedies, run through our assessment of the effectiveness and proportionality of our remedies package. We set out that assessment more specifically, and by reference to the framework we have outlined, below.

Effectiveness

- 8.136 This sub-section considers the effectiveness of our remedies in remedying, mitigating or preventing the AEC and/or the resulting customer detriment. In particular, drawing on the framework for assessment described in paragraphs 8.7 to 8.19 above, it considers:

- (a) How the remedies contribute to remedying, mitigating or preventing the AEC and/or the resulting customer detriment;
- (b) implementation, monitoring and enforcement issues;
- (c) the timescales over which the remedies will take and have effect;
- (d) consistency with existing and expected laws and regulations; and
- (e) interactions between the remedies.

How the remedies contribute to remedying, mitigating or preventing the AEC and/or the resulting customer detriment

- 8.137 The charge control remedy will not address the underlying cause of the AEC we have identified, but it will remedy, mitigate or prevent the customer detriment arising from it. In particular, it will mitigate the detrimental effect on customers of Airwave Solutions pricing above competitive levels. It will do this by directly limiting the amounts that Airwave Solutions is allowed to charge its customers for Airwave Network services, in the specific ways set out in Appendix K. Not imposing that remedy would, in the absence of effective alternatives, mean that the substantial customer detriment resulting from the AEC would remain unaddressed.
- 8.138 We have additionally found that Airwave Solutions and Motorola have incentives and ability to delay or hamper and/or make more costly the transition of users from the Airwave Network to ESN (or an alternative network) in the context of the development of an interworking interface (see Section 5).

- 8.139 The introduction of the charge control remedy is expected to reduce Airwave Solutions' and Motorola's incentives to prolong the operational life of the Airwave Network in two ways. In particular, as set out in Appendix K:
- (a) The charge control will result in a substantial reduction in Airwave Solutions' relevant revenue, including by around [>40] [$\times$] % over the remaining part of 2023 (following commencement of the Order).
 - (b) The charge control has been structured such that Airwave Solutions' ability to recover allowances related to past investments will not be dependent on the time period over which the Airwave Network remains operational,⁷³² such that the scope for incremental financial benefit from the Airwave Network continuing to operate beyond the end of 2026 should be further reduced.
- 8.140 As set out in paragraphs 8.82 to 8.87 above, we did not receive evidence that enabled us to specify an interworking remedy that we consider would be effective and proportionate. We have decided not to put in place an interworking remedy but note that Motorola and the Home Office have now entered into the Interface Agreement which substantially mitigates Airwave Solutions' and Motorola's ability to delay, hamper or make more costly the transition to ESN.
- 8.141 Finally, our recommendation to the Home Office also contributes to remedying, mitigating or preventing the AEC and resulting customer detriment. The recommendation addresses the features of the market relating to the delayed replacement of the Airwave Network and the Home Office's dependence on the Airwave Network and its provision by Airwave Solutions / Motorola which, alone or in combination with the other features identified, give rise to the AEC we have found.

Implementation, monitoring and enforcement

- 8.142 We have taken into account that remedies should be capable of effective implementation, monitoring and enforcement. Their operation and implications should be clear to those to whom they are directed and to others, such as customers, regulators, and any other body which has responsibility for monitoring compliance. We have also taken into account that behavioural remedies that control outcomes, like charge controls, can require costly and intrusive monitoring and enforcement.
- 8.143 We have considered how issues relating to the implementation, monitoring and enforcement of our charge control remedy, and the possible attendant risks, should be addressed:

⁷³² As set out in Appendix K, the charge control includes final reconciliation arrangements to provide for recovery of the relevant net asset value.

- (a) We have set out the design of the charge control, and how it will be calibrated, in paragraphs 8.20 to 8.22, and in further detail in Appendix K. This makes clear what the remedy requires and how it is to be complied with. The charge control will be implemented by means of an Order, which we expect to be in place by the middle of 2023.
- (b) We have set out the reporting and assurance requirements to which Airwave Solutions / Motorola will be subject, in order to demonstrate compliance with the charge control remedy, in Appendix K. These reporting and assurance requirements, alongside the CMA's general remedies monitoring and enforcement powers under the Act, will provide a sufficient basis for monitoring compliance and – where relevant – enforcement.

8.144 Our assessment is that the charge control remedy is capable of effective implementation, monitoring and enforcement. We also consider that the recommendation is capable of effective implementation and note that the Home Office welcomed the substantively similar recommendation proposed in the PDR.

The timescales over which the remedies will take effect

- 8.145 We have also considered when the charge control remedy should come into force and for how long it should apply. We have taken into account that it will have ongoing effects on Airwave Solutions' / Motorola's conduct throughout the period it is in force. We have had regard to: (i) the length of time over which the AEC and resulting customer detriment is expected to persist; (ii) the role the charge control is expected to play in tackling that detriment; (iii) the extent to which the measure is expected to become obsolete over time; and (iv) the appropriateness of setting a sunset date and what any such date should be.
- 8.146 We observe that the duration of an AEC and the resulting customer detriment can be subject to some uncertainty.⁷³³ We also observe, however, amongst other things that, in this case:
- (a) the customer detriment is ongoing and likely to persist until the Airwave Network is replaced by ESN (or an alternative network) or until alternative competitive arrangements, or measures to similar effect, replace the current arrangements for its provision; and
 - (b) we have evidence, including from the Home Office and financial data from Motorola, which suggests they both consider the end of 2029 as a point to which the Airwave Network is likely to continue to operate.

⁷³³ [Supplemental Guidance](#), paragraphs 4.21.

- 8.147 Our views on how the charge control remedy should be applied, taking account of the points in paragraph 8.146, are set out in Appendix K. Our assessment is that the charge control remedy should take effect from the commencement date of an Order which we intend to consult on promptly following the publication of this report. As set out in Appendix K, the charge control remedy will be in place until the end of 2029 or terminate earlier if the Airwave Network ceases to be operational prior to that date, and will be subject to a review in 2026. Those timings will, in our assessment, ensure that an effective remedy is in place for the period it is required.
- 8.148 This time period for the charge control will also give the Home Office sufficient opportunity to develop and implement a plan to ensure that, in the longer run, the supply of communications network services for public safety is subject to competitive pricing arrangements, or if this is not feasible, measures to similar effect. Our recommendation to the Home Office supports this and serves to address the risk that Airwave Solutions / Motorola will retain unilateral market power beyond 2029.
- 8.149 Provided the Home Office takes this opportunity and acts promptly on our recommendation, our remedy package will start to remedy, mitigate or prevent the detrimental effects of the AEC within a few months of publication of this final report, by means of our charge control remedy, and should then result in an enduring means of remedying, mitigating or preventing the AEC we have found, first through the impact of the charge control remedy and subsequently as a result of our recommendation.

Consistency with existing and expected laws and regulations

- 8.150 We have not identified any existing or expected laws or regulations that would be expected to have an impact on the effectiveness of our remedies.

Interactions between the remedies

- 8.151 The charge control and recommendation remedies will, in our judgement, work effectively together. The charge control is the primary remedy aimed at remedying, mitigating or preventing the substantial customer detriment resulting from the AEC we have identified. The recommendation remedy seeks to ensure that by not later than the end of 2029, the supply of communications network services for public safety is subject to competitive pricing arrangements; or, if this is not feasible, measures to similar effect, thereby addressing Airwave Solution's / Motorola's market power over the longer term.

Conclusion on effectiveness

8.152 Our conclusion is accordingly that the package of remedies will be effective in achieving its aim of remedying, mitigating or preventing the AEC we have identified and the resulting customer detriment resulting from the AEC.

Proportionality

8.153 This subsection considers the proportionality of our remedies in remedying, mitigating or preventing the AEC and the resulting customer detriment. As set out in paragraph 8.12 above, we consider a proportionate remedy to be one that:

- (a) is effective in achieving its legitimate aim;
- (b) is no more onerous than needed to achieve its aim;
- (c) is the least onerous if there is a choice between several effective measures; and,
- (d) does not produce disadvantages which are disproportionate to the aim.

8.154 We summarise the submissions we received in relation to proportionality below, before providing our assessment of our remedies in relation to these criteria.

Parties' submissions

Motorola's views

8.155 Motorola said that the charge control proposed in the PDR would be disproportionate for at least six reasons.⁷³⁴

- It would enshrine, for many years to come, the very market structure that the CMA would be claiming is not working well, while not addressing the underlying cause. Motorola said that the charge control remedy proposed in the PDR would be anti-competitive, because the Home Office would never be incentivised to invite competitive tenders to allow competition for the market to work, given the 'punitive' low level at which the proposed charge control had been set.⁷³⁵ Motorola said that – even if it were assumed that the Home Office had any incentive to contemplate running a tender – the charge control proposed in the PDR would 'eliminate any future competition for the market' and create a 'self-fulfilling prophecy.'⁷³⁶ Motorola pointed to the CMA as having recognised this issue in previous market investigation decisions, and

⁷³⁴ [Motorola's submission, why a charge control is not the answer](#), 4 January 2023, paragraph 3.

⁷³⁵ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 1.7.

⁷³⁶ [Motorola's response to the CMA's Provisional Decision Report](#), 21 November 2022, paragraph 1.8.

in particular in the private healthcare market investigation,⁷³⁷ where it had decided against imposing a charge control as it ‘may generate distortion risks over time by discouraging innovation’, and ‘would also discourage new entry.’⁷³⁸

- It would continue to impose billions of pounds of avoidable costs on the British taxpayer at a time when this is least affordable.
- It would subject Airwave Solutions to the operation of a wholly unnecessary regulatory apparatus that is being put together ‘in extreme haste’.
- It would permit the Home Office, in reprocurring ESN services, to limit the development of the relevant market by excluding Airwave Solutions’ tried and tested service together with current and future technology, despite Airwave Solutions having successfully delivered for over 20 years.
- It would deprive Airwave Solutions of a fair, open and non-discriminatory tender process to seek to serve the relevant market after December 2026, when the current contract expires.
- It would amount to expropriation by overriding, for the benefit of the UK Government, the long-since agreed terms of a fixed price contract that will soon expire.

Home Office views

8.156 Commenting on Motorola’s submissions, the Home Office said its approach to ESN provides a pathway for not just competition for the market, but competition in the market.⁷³⁹ It said that, while freely criticising the cost of ESN, Motorola ignored the avoidable costs resulting from the AEC that has been (at that point provisionally) identified.⁷⁴⁰ The Home Office said that the CMA had sensibly gathered data inputs for any charge control that might be imposed, and that – rather than being procedurally irregular – this was a rational and necessary part of the CMA’s work.⁷⁴¹ The Home Office said that while it accepts that generally, the quality of service has been good, the Airwave Network is based on legacy technology approaching end of life, has significant limitations in terms of data

⁷³⁷ Motorola made specific reference to paragraph 12.219(d) and (e) of: CMA (2014), [Private healthcare market investigation: Final Report](#)

⁷³⁸ [Motorola’s response to the CMA’s Provisional Decision Report](#), 21 November 2022, paragraphs 1.8 and 1.14.

⁷³⁹ [Home Office’s submission responding to Motorola’s ‘Why a Charge Control is not the Answer’ submission](#), 16 February 2023, paragraph 28.

⁷⁴⁰ [Home Office’s submission responding to Motorola’s ‘Why a Charge Control is not the Answer’ submission](#), 16 February 2023, paragraph 36.

⁷⁴¹ [Home Office’s submission responding to Motorola’s ‘Why a Charge Control is not the Answer’ submission](#), 16 February 2023, paragraph 38.

services, and comes at a high cost to the taxpayer.⁷⁴² The Home Office said it would be open to Motorola to bid for ESN when there is a further competition in due course.⁷⁴³

Assessment

8.157 Our detailed consideration of the proportionality of our remedies is covered in paragraphs 8.158 to 8.174 below. Before setting out that assessment, we respond briefly to each of the more general points made by Motorola:

- (a) We consider that the Home Office would continue to have every incentive to put in place competitive pricing arrangements to secure taxpayer value-for-money over the longer term, and have made a clear recommendation to that effect. As explained in paragraph 8.52 above, the current situation is materially different from the private healthcare sector.
- (b) We expect the charge control remedy to result in considerable savings to taxpayers in a context where we have found profits from the operation of the Airwave Network to be almost £200 million per year more than we would expect in a well-functioning market.
- (c) We have looked carefully at alternatives to the charge control remedy and have not been able to identify an effective alternative that would remedy, mitigate or prevent the substantial detrimental effect of the AEC on customers in a sufficiently timely manner. We have given careful thought to the design of the charge control and have had sufficient time to do so over the course of the market investigation, which launched in October 2021.
- (d) We are not restricting the options available to the Home Office to secure taxpayer value for money, or in reprocurring ESN services.
- (e) Nor are we in any way restricting the Home Office's ability to run a future tender in any way it chooses.
- (f) Finally, we do not consider that the introduction of the charge control remedy following an in-depth, thorough and fair regulatory process in any way constitutes an act that can be characterised as expropriation for the benefit of the UK government. While the charge control remedy does interfere with the existing contractual arrangements, it is imposed to remedy, mitigate or prevent the principal customer detriment resulting from the AEC we have identified: namely Airwave Solutions' (and its owner, Motorola's) ability to

⁷⁴² [Home Office's submission responding to Motorola's 'Why a Charge Control is not the Answer' submission](#), 16 February 2023, paragraph 41.

⁷⁴³ [Home Office's submission responding to Motorola's 'Why a Charge Control is not the Answer' submission](#), 16 February 2023, paragraph 47.

price above levels we would expect to prevail in a competitive market. Such action is taken by us in the public interest and subject to conditions provided for by law.

Is effective in achieving its legitimate aim

- 8.158 As described in paragraph 8.131 above, the main focus of our remedies package in this case is in remedying, mitigating or preventing the substantial detrimental effects on customers of the AEC. We have considered whether our remedies would achieve that.
- 8.159 A key part of mitigating the detrimental effects is limiting Airwave Solutions' ability to price above levels we would expect in a competitive market. In line with the comments in paragraphs 8.136 to 8.152 above, we consider that the charge control remedy will be effective in achieving this aim. We set out our assessment of how an appropriate price level can be established in Appendix K, and the charge control remedy will limit the prices that can be charged for Airwave Network services accordingly.
- 8.160 We contrast the impact of the charge control remedy with our assessment of other remedies which would not achieve the same aim, such as measures to enable competition to operate and maintain the Airwave Network, standalone information transparency requirements, improvements to benchmarking arrangements or divestiture of Airwave Solutions. For the reasons described in paragraphs 8.103 to 8.124 above, none of these would limit the relevant prices to a level we would expect in a competitive market: the first because it would not be expected to provide for competitive pricing outcomes in the circumstances that are likely to apply at the end of 2026, the second because it would not give the Home Office countervailing buyer power, the third because of the inherent difficulties involved in benchmarking (such as identifying appropriate comparators) and the fourth because it would simply transfer market power to another supplier (as well as potentially being a more intrusive remedy in that it would require divestiture). In that context, not imposing the charge control remedy would mean that substantial customer detriment resulting from the AEC would continue.
- 8.161 As explained in paragraph 8.151, the recommendation to the Home Office is designed to work alongside the charge control remedy. It will help ensure that, in the longer run, Airwave Solutions' / Motorola's market power is addressed either at source (for example, by the introduction of an alternative communications network operating on appropriately competitive terms and in appropriately competitive circumstances), or, if that is not feasible, from the Home Office taking other measures available to it to similar effect (for example, putting forward legislation to put in place a regulatory function). That, in our view, is a further legitimate aim and one that would not be achieved by the charge control remedy alone.

Is no more onerous than needed to achieve its aim

- 8.162 We recognise that charge controls are substantial interventions in markets that require careful design to ensure their effectiveness and proportionality. We have had regard to a number of considerations in that connection.
- 8.163 We have considered whether less onerous remedies could achieve the same aim. That is, whether less intrusive or burdensome remedies could limit prices to a competitive level. We have assessed, as we note in paragraphs 8.123 to 8.124, that such remedies, like standalone information transparency measures or improvements to benchmarking arrangements, are unlikely to do so. We also observe that other remedies, like divestiture of Airwave Solutions, would not address the ability to set prices above the competitive level.
- 8.164 Our decision to impose the charge control remedy is the result of that assessment. As set out above, our view is that a charge control is required to remedy, mitigate or prevent the detriment to customers that would otherwise be expected to result from Airwave Solutions' / Motorola's unilateral market power, given the absence of credible alternatives.
- 8.165 In forming our views on the design and calibration of the charge control remedy we have considered the onerousness of different potential approaches (see Appendix K). We note again that Airwave Solutions is able to price substantially above the competitive level. In Appendix K we explain our assessment of how the charge control remedy would be expected to limit prices to a level more broadly in line with that we might expect in a competitive market. In other words, a charge control that would be in proportion to the detriment it seeks to mitigate. Our view is that a charge control of the form and magnitude imposed is required to meet that legitimate aim. Different approaches, resulting in smaller reductions of the price level, would not do so.
- 8.166 Our further assessment is that, in the longer term, there is scope for the Home Office effectively to address Airwave Solutions' / Motorola's unilateral market power by ensuring that the supply of communications network services for public safety is subject to competitive pricing arrangements or, if that is not feasible, measures to similar effect. In line with this, we are limiting the duration of the charge control to the period until 2029, and recommending that the Home Office develop and implement a plan that will ensure that outcome is achieved by no later than that date. That sunset provision takes account of the evidence we have seen about the possible timing of the replacement network. It will help ensure that the charge control remedy is not in place for any longer than is required.

Is the least onerous if there is a choice between several effective measures

- 8.167 Our assessment is that, in the circumstances, there are no remedies available to us that would be expected to remove the source of the AEC prior to 2029. Our assessment is that a charge control remedy that limits the price charged for the Airwave Network services is the only effective means of remedying, mitigating or preventing the main customer detriment (prices above the competitive level) resulting from that AEC over the period to 2029. We note again our assessments of the likely ineffectiveness of remedies: (i) providing for information transparency (see paragraph 8.123); (ii) seeking to improve the existing benchmarking arrangements (see paragraph 8.124); (iii) involving divestiture (see paragraph 8.107); or (iv) enabling competition to operate and maintain the Airwave Network (see paragraph 8.116).
- 8.168 The Home Office, as the key customer of the Airwave Network and the government department responsible for procuring the replacement network, should be in a position to address the AEC we have identified at source by 2029 (for example, by ensuring that an alternative communications network is put in place), or to safeguard against the risk of anti-competitive outcomes resulting from a continuing monopoly position in the provision of all or part of the Airwave Network by taking other measures available to it (for example, putting forward legislation to introduce a regulatory function).

Does not produce disadvantages which are disproportionate to the aim

- 8.169 The possible trade-offs that can exist between different aspects of a remedy and the consequences – the benefits and disadvantages – it may produce, are an important part of our assessment. Having regard to them helps us to make a judgement in the round about the effective and proportionate remedy or package of remedies we should propose.
- 8.170 Our assessment is that the charge control remedy and the recommendation remedy do not produce disadvantages which are disproportionate to their aims. Our assessment in that regard can be summarised as follows.
- 8.171 We have estimated that – absent intervention – Airwave Solutions is able to price the Airwave Network services substantially above the competitive level such that it and its owner, Motorola, could be expected to have made supernormal profits of around £1.27 billion between the beginning of 2020 and the end of 2029. This is the equivalent to charging almost £200 million a year more than we would expect to see in a well-functioning market. The charge control remedy, by substantially remedying, mitigating or preventing this detriment, is liable therefore to produce correspondingly substantial benefits.

- 8.172 We have weighed potential disadvantages against the substantial benefit the charge control remedy is expected to produce. Our views on charge control design and calibration in Appendix K take account of a range of potential disadvantages that might have been associated with specific choices we might have made. We note that Motorola's submissions raise the prospect of the introduction of a charge control giving rise to unintended distortions to market outcomes which could adversely affect the economic and safety interests of customers over the longer term, and we set out our views on those submissions in paragraphs 8.57 to 8.67 (and Appendix K). Our assessment is that the potential disadvantages have been mitigated appropriately by the choices we have made in the design and calibration of the charge control remedy.
- 8.173 We have not identified any disadvantages associated with our recommendation remedy that would be disproportionate to its aim of ensuring that the supply of communications network services for public safety is subject to competitive pricing arrangements or, if that is not feasible, measures to similar effect by no later than the end of 2029.

Conclusion on proportionality

- 8.174 In light of the above, we consider that the introduction of a suitably designed and calibrated charge control (as described in Appendix K), combined with a recommendation to the Home Office that it should, as soon as possible, develop and implement a plan that will ensure that the supply of communications network services for public safety in Great Britain is subject to competitive pricing arrangements or, if that is not feasible, measures having similar effect by not later than the end of 2029 provides a proportionate response to the AEC and resulting customer detriment we have found.

Relevant customer benefits

- 8.175 We have not identified, nor has any party suggested to us, any RCBs resulting from the features we have found. Therefore, we have not had regard to any RCBs in designing our remedies package.

Decision on remedies

- 8.176 Given the AEC and resulting customer detriment we have found, our conclusion is that the following package of remedies should be introduced:
- (a) A charge control to remedy, mitigate or prevent the principal detrimental effect on customers of the AEC we have identified, namely Airwave Solutions' (and its owner, Motorola's) ability to price above levels we would expect in a competitive market. This remedy will include information provision

requirements to support the operation of the charge control. The design of the charge control remedy, and how it will be calibrated, is set out in Appendix K.

- (b) A recommendation to the Home Office that it should, as soon as possible, develop and implement a plan that will ensure that by not later than the end of 2029 the supply of communications network services for public safety and ancillary services in Great Britain is subject to:
 - (i) competitive pricing arrangements; or, if this is not feasible,
 - (ii) measures to similar effect (for example, through putting forward legislation to introduce a regulatory function).