Mobile radio network services

Final Report

Appendices

5 April 2023

Competition & Markets Authority

Members of the Competition and Markets Authority who conducted this inquiry

Martin Coleman *(Chair of the Group)*

Humphrey Battcock

Colleen Keck

Jeremy Newman

Chief Executive of the Competition and Markets Authority

Sarah Cardell

The Competition and Markets Authority has excluded from this published version of the appendices 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 [✂]. Some numbers have been replaced by a range. These are shown in square brackets.

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APPENDIX A: TERMS OF REFERENCE

1 The Competition and Markets Authority (CMA) in the exercise of its power under sections 131 and 133 of the Enterprise Act 2002 (the Act) hereby makes an ordinary reference to the Chair of the CMA for the constitution of a group under Schedule 4 to the Enterprise and Regulatory Reform Act 2013 for an investigation of the supply of LMR network services for public safety (including all relevant ancillary services) in Great Britain.

2 The CMA has reasonable grounds to suspect that a feature or a combination of features of the market for the supply of those goods and services in Great Britain prevents, restricts or distorts competition.

3 For the purposes of this reference:

‘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;

‘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.

APPENDIX B: ADDITIONAL BACKGROUND INFORMATION

1 This Appendix sets out additional background information on the original Airwave procurement and some relevant developments up to the decision in 2013 to procure the ESN. It covers:

(a) The background to the decision to procure a single, national[1] communications network for the police;

(b) The choice of Private Finance Initiative (PFI) as the procurement method;

(c) The progress of the procurement, including after competitors to BT had withdrawn from competition;

(d) The provision of additional central government funding in the early years following the procurement;

(e) The roll-out of the Airwave Network;

(f) The procurement processes that led to the ambulance services, and the fire and rescue services, becoming users of the Airwave Network;

(g) Concerns the Home Office had about the financial position of Airwave Solutions in the later years of its ownership by Macquarie, and how this informed some decisions about the ESN procurement;

(h) Airwave Solutions' performance; and

(i) The decision in 2013 to procure a new emergency services communication system (ESN).

The Airwave Network procurement

2 This section is based on published information, available in the National Audit Office's 2002 report 'Public Private Partnerships: Airwave',[2] the report of the Committee on Public Accounts which followed it (also called 'Public Private Partnerships: Airwave) and the minutes of the evidence taken by that committee.[3]

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[1] In this Appendix, 'national' is used to mean covering Great Britain but not Northern Ireland.
[2] NAO (2002), Public Private Partnerships: Airwave (HC730).
[3] Committee of Public Accounts (2002), Public Private Partnerships: Airwave (HC783).

The situation before the Airwave Network contract

3 Before the Airwave Network procurement, independent police authorities procured their own radio communications services. As a result, they used different systems, installed and updated at different times.[4]

4 During the 1980s, the Association of Chief Police Officers in England and Wales asked the Home Office to investigate and develop a strategy for the provision of modern radio systems for the police. The NAO reported that this request was 'a key factor' leading to the Major Review of Radio Communications in the Police and Fire Services of England and Wales. This review's conclusions were endorsed by the then Home Secretary in April 1993.[5]

5 The police and fire services in Scotland carried out a similar review, which produced broadly similar results.[6]

6 The reviews reported that existing police radio systems did not meet requirements. The Home Office's view of shortcomings in existing systems included the following:

(a) Congestion. The existing radio channels were often very congested, meaning that police officers were unable to gain access when required. This could lead to officers losing the ability to call for rapid response when required.

(b) Inflexibility. The existing systems did not allow for re-assignment of capacity to overcome congestion, or to provide command and working-level channels.

(c) Insecurity. The majority of police radio systems were unencrypted and messages could be intercepted with simple scanning receivers.

(d) Interference. Interference from commercial radio use in neighbouring countries caused severe problems to police radio systems in the south and east of England, and some way inland.

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[4] Committee of Public Accounts (2002), Public Private Partnerships: Airwave (HC783), Minutes of evidence, Questions 13 and 14.
[5] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 1.2.
[6] NAO (2002), Public Private Partnerships: Airwave (HC730),paragraph 1.2.

(e) Lack of inter-operation. Vehicle-mounted radios operated on a different frequency from handheld radios, frustrating communications between officers in vehicles and those on foot, without the use of a second radio.

(f) Lack of roaming. Police officers were not able to maintain contact with their control rooms when outside their force areas.

(g) Lack of management information. The systems did not provide information to commanders about the status and location of police officers.[7]

7 In addition to this, the government had declared its intention, in the early 1990s, to surrender access to the radio frequencies that were used by the systems then in use, after 2004. This meant that each police constabulary would need to replace its existing systems by this date.[8]

8 Many radio systems would have needed to be replaced before 2004, because they could not be expanded or upgraded. In the mid-1990s, some police forces were using systems that were already more than 15 years old, while only two forces had radio systems that were less than five years old.[9]

Decision to replace with a national network

9 In 1993, the Home Office concluded that a new system was required, and that it should be procured on a national basis.[10] At this time, it was planned that the new system would also support the fire and rescue services, but in 1996 the fire service withdrew from the programme.[11]

10 A national procurement was preferred over local procurements for replacement systems, on the grounds that local procurements were unlikely to achieve any economies of scale. Additionally, the absence of a European standard for the interfaces between systems meant that it might not have been possible to link police forces together and maintain adequate levels of security through encryption.[12]

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[7] NAO (2002), Public Private Partnerships: Airwave (HC730), Figure 1, based on information provided by the Home Office.
[8] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 1.4.
[9] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 1.4.
[10] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 1.
[11] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 1.
[12] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 1.6.

11 The Home Office explained its preference for a national procurement over a series of local procurements as follows:

> Firstly, it allows better co-ordination between police forces and that is a key gain from having a single system which straddles the whole country. Secondly, it allows what is called roaming, that is to say police from one area to come to the help of another and then use their own equipment. Thirdly, it enables us to concentrate our expertise, especially in new technology as complicated as Airwave's, also it allows some economies of scale in the resource put into managing the system and there may be economies of scale in the procurement.[13]

Choice of PFI as the procurement route

12 The use of PFI as the procurement route was considered a way of engendering innovation by allowing the private sector to develop solutions for the new service. To support this, each short-listed bidder would be required to produce a project definition study.[14]

Management structure for the project

13 In 1998, the part of the Home Office responsible for the project was transferred to the Police Information Technology Organisation (PITO), a Non-Departmental Public Body established to provide a procurement, contract management and advisory service for communications and information technology used by police forces.[15]

14 Although this body was not formally established until 1998, it was effectively a continuation of the procurement and project team that had been set up in the Home Office in 1993, and the National Audit Office's report refers to the in-house team as 'PITO' in its 2002 report. We do the same here, for consistency and ease of cross-reference.

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[13] Committee of Public Accounts (2002), Public Private Partnerships: Airwave (H783), Minutes of Evidence, response to question 2.
[14] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 1.9.
[15] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.

The Airwave PFI procurement

15 In July 1995, the Home Office sent a Prior Information Notice to the Official Journal of the European Communities (OJEC), notifying its intention to award a contract for a national communications service. This notice prompted 70 responses.[16]

16 In January 1996, the Project Notice was published in the OJEC.[17] Following this, three potential bidding consortia were formed.[18] These are listed in Table B-1.

Table B-1: Consortia formed to bid for the Airwave PFI contract

Consortium	Lead company	Tetra equipment developer	Other primary members
Consortium 1	O2	Motorola Limited (1) Nokia Telecommunications Limited (1)	TRW Integrated Engineering Division
Consortium 2	Racal Network Services Limited	Ericsson Limited (2) Bosch Telecom (3)	Fluor Daniel Limited N M Rothschild Smith Consultancy
Consortium 3	NTL	Philips Communication Systems	ICL

Notes: (1) After being awarded the Airwave PFI contract, O2 appointed Motorola Limited as the sole infrastructure provider.
(2) Ericsson Limited withdrew from the TETRA market in 1996.
(3) Bosch Telecom withdrew from the TETRA market in 1996.
Source: NAO (2002), Public Private Partnerships: Airwave (HC730).

17 Also in January 1996, the fire service withdrew from the procurement.[19] The Home Office has explained that the plan up until that time was for both the police service (England, Scotland and Wales) and fire and rescue services (England, Scotland and Wales) to be initial users of the new system:

> [I]n 1996 the Fire Service decided that the requirements of the police for their system were more complex than the requirements of the Fire Service, so they disengaged from the procurement, although they have stayed on the potential sharers' register.[20]

18 From that time onwards, the procurement involved only the police service as committed users of the service to be delivered.

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[16] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.9.
[17] Official Journal of the European Communities (OJEC) Project Notice, 1996.
[18] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.9.
[19] NAO (2002), Public Private Partnerships: Airwave (HC730), Appendix 1.
[20] Committee of Public Accounts (2002), Public Private Partnerships: Airwave (HC783), Minutes of Evidence, response to question 3.

19 The Outline Business Case was produced in April 1996.[21]

20 In August 1996, PITO issued an Invitation to Tender for project definitions studies.[22] By this time, the quoted figures for a bidder to undertake such a study had risen from a 1994 estimate of £500,000 to a range from £2.5 million to £10 million.[23]

21 Although three potential bidding consortia had been formed, and all three had passed the pre-tender assessment, by April 1997, only one potential bidder remained, led by O2[24], which at the time was owned by BT. First, NTL decided to join the consortium led by Racal Network Services Limited to produce a stronger bid. Following the withdrawal of Ericsson Limited from the TETRA market, Racal Network Services Limited dropped out, citing uncertainties over police support for the project and doubts over potential returns.[25]

22 PITO was concerned that the absence of competition would make it difficult to demonstrate that any offer from the remaining bidder represented value for money. It considered options and consulted, in addition to its three principal advisers, the Home Office Procurement Unit, HM Treasury, the then PFI Panel and the Association of Chief Police Officers.[26]

23 Additionally, to counter the risk that the project might be cancelled, BT proposed to PITO that any assessment of value for money could be supplemented by the use of a 'should-cost' model (see paragraphs 28 to 34).[27]

24 The options, and PITO's view of them, are set out in Table B-2.

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[21] NAO (2002), Public Private Partnerships: Airwave (HC730), Appendix 1.
[22] NAO (2002), Public Private Partnerships: Airwave (HC730), Appendix 1.
[23] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.13.
[24] NAO (2002), Public Private Partnerships: Airwave (HC730), Appendix 1.
[25] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.14.
[26] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.15.
[27] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.17.

Table B-2: Options reviewed by the Airwave project team after competitive tension had been lost

Option	Reasons given by PITO to reject options
1 Continue with O2	None.
2 Re-run single procurement of a national system	There would be no new parties interested in bidding. There would be a negative reaction from O2.
3 Implement fallback	User requirements would not be met. There would be few opportunities for sharers to join thus losing the opportunity for the unit cost to the police being reduced. Police forces would be burdened with the responsibility for replacing their radio systems. Expected benefits from Airwave would be lost.
4 'Do-nothing'	Postponing the procurement for three or more years so allowing the TETRA supply market to mature would see consolidation of the market and there would be no new major players beyond those already in the competition. Some police forces would obtain replacement systems in the interim and would resist, on value for money grounds, any move towards establishing, in the future, a national radio communications network.
5 Adapt procurement strategy to engender competition (e.g. a series of regional procurements)	There would be a need to restart the competition, which would delay the procurement of the service by at least two years. Delaying the procurement would erode support from the police forces.

Source: NAO (2002), Public Private Partnerships: Airwave, Figure 10.

25 PITO considered that abandoning the project was not an acceptable option, because existing radio systems were not meeting operational requirements. Further, because of the shortcomings of the existing systems, the project team considered that the best option would be the one that posed the least risk of delay to implementing a replacement system.[28]

26 Based on these arguments, Ministers approved the proposal to proceed with a single bidder.

27 In October 1997, O2 was awarded the contract for a project definition study.[29]

The 'should-cost' model and the public sector comparator

The 'should-cost' model

28 BT proposed the use of a 'should-cost' model to support the assessment of value for money.

[28] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.15.
[29] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.15.

O2 realised that PITO, in the absence of a competitive procurement, might struggle to demonstrate to the Home Office and police forces that the price of Airwave was the best available in the market. To counter the risk that PITO might cancel the project, O2 suggested that any assessment of value for money could be supplemented by the use of a should-cost model.[30]

29 The 'should-cost' model involved compiling information about the costs of the Airwave Network, to permit direct comparisons with BT's estimated costs. Provided BT supplied detailed information quantifying the assets and labour needed to deliver the Airwave Network, PITO considered that with its advisers it was able to assess the reasonableness of this information, and that it could derive independent pricing of components from information in the public domain. PITO also considered that its 'should-cost' model would be useful for benchmarking exercises during the term of the contract.[31]

30 The project definition study contract, agreed in October 1997, obliged BT to provide the Home Office with component and labour quantities for the project. However, the flow of quantity-related information from this work was slower than PITO had anticipated.[32]

31 Challenges to building the 'should-cost' model identified by the NAO included:

(a) Quantifying labour-only activities that BT intended to outsource. 'For a long time, O2 did not have a clear understanding of what was required. For example, discussion about the amount of software development needed to integrate the various systems in Airwave were concluded in October 1999, two months after the production of the final version of the should-cost model.'[33]

(b) Cost of components. 'Reliable cost information for TETRA equipment proved not to be readily available because the technology was so new. PITO estimated these costs using various sources…[h]owever, because of different levels of functionality there were considerable discrepancies depending on the chosen supplier. Records of how PITO converted the raw cost information it had obtained into figures input into

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[30] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.17. See also Committee of Public Accounts (2002), Public Private Partnerships: Airwave (HC783), Minutes of Evidence, response to question 202.
[31] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraphs 2.18 and 2.19.
[32] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.20.
[33] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.20 (a).

the model were not retained, so we have been unable to verify the reasonableness of the process. As a result, PITO has lost the opportunity to establish a robust database of costs for use in the future. Such a database…would have assisted in pricing future change to the service and in future benchmarking exercises.[34]

(c) Financing costs. BT refused to disclose how it intended to finance the project. Charterhouse (PITO's financial adviser) advised PITO to design the model so that the output reflected pre-finance and pre-tax cash flows. Charterhouse also recommended requiring a breakdown of costs so that meaningful comparisons could be made. BT refused to disclose costs on a component-by-component basis, but agreed to provide cost information for six capital and six operational cost lines.[35]

32 PITO began work on the should-cost model in 1997 and continued refining it until August 1999.[36]

33 The should-cost model calculated an internal rate of return (before financing and tax) of 17%.[37] It calculated the total cost of the Airwave Network as £990 million.[38]

34 PITO used its should-cost model to challenge discrepancies between its estimates and O2's cost information, and both PITO and O2 told the NAO that these discussions led to a reduction in the estimated unit cost of base stations.[39]

The public sector comparator

35 In February 1999, PITO reached the view that a public sector comparator would also help with its assessment of the value for money of BT's offer. This option had previously been discounted, in the 1996 Business Case, on the basis that the PFI procurement would be the most appropriate method of procurement.[40]

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[34] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.20 (b).
[35] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.20 (c).
[36] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraphs 2.20 and 2.22.
[37] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.22.
[38] NAO (2002), Public Private Partnerships: Airwave (HC730), Figure 11.
[39] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.21.
[40] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.27

36 A working version of the public sector comparator was completed in September 1999. At this point, negotiations with BT were advanced; the PFI Agreement was signed in February 2000.[41]

37 The public sector comparator included a contingency provision of £70 million and a risk provision of £170 million (both net present costs). The NAO's review concluded that the risk provision would have been more accurately valued at £150 million.[42] The Home Office said later (in 2002) that a risk value of around 10% of total value for a technically advanced and complex project is considered reasonable.'[43]

38 The estimated net present cost of the public sector comparator was £1,610 million, compared with the BT price of £1,470 million.[44]

Commercial negotiations

39 Commercial negotiations with BT began in December 1998.[45] The NAO described these as 'problematic', noting the following aspects:

(a) without an alternative supplier, 'PITO had to work hard to deliver a deal that it and other stakeholders in Airwave were prepared to accept'.[46]

(b) The possibility that not all police forces would choose to sign up to use the Airwave Network might have created downwards pressure on BT's price. However, uncertainty about take-up 'eventually became a price affecting risk' that PITO addressed by agreeing to pay for the Core Service regardless of police take-up'.[47]

(c) PITO was not content with BT's proposed terms in five key areas: the limit of liability; the liability cap for the pilot; liquidated damages' service credits; and benefit-sharing if other services subscribed to Airwave. Negotiations on these points took seven months, with the outcome acknowledged by PITO as 'not ideal', but within the acceptable range.[48]

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[41] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.27 and Appendix 1.
[42] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraphs 2.30 and 2.31.
[43] Committee of Public Accounts (2002), Public Private Partnerships: Airwave (HC783), Appendix 1 to the Minutes of Evidence.
[44] NAO (2002), Public Private Partnerships: Airwave report, 2002, paragraph 2.32. For 'net present cost, see Committee of Public Accounts (2002), Public Private Partnerships: Airwave (HC783), response to question 145.
[45] NAO (2002), Public Private Partnerships: Airwave (HC730), Appendix 1.
[46] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.34.
[47] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraphs 2.36 and 2.37.
[48] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.35.

(d) Although PITO had begun developing a fallback option – in which individual police forces, acting collectively if they chose to, would procure their own digital radio systems – in June 1997, this stopped in August 1997 due to a lack of resources. It was restarted in late 1998, and produced a fallback strategy in December 1998. However, work on an implementation plan was not resourced and so it was not available at the time the contract was awarded.[49]

40 In June 1999, the Association of Chief Police Officers published a report into the feasibility of a locally-procured solution. The NAO reported:

> Despite the fact that the group's estimated cost was similar to that calculated in the should-cost model, PITO avoided using the findings productively for two reasons. Firstly, the timing of the publication of the group's findings was late in the procurement with the negotiations already well advanced and most pricing issues, through comparisons with the should-cost model and public sector comparator, explained. Re-examining issues in the light of the group's findings would have further delayed the award of the contract. Secondly, PITO was committed to the objective of procuring a national police radio system, something that was not assured if the group's alternative won support among stakeholders.[50]

41 In January 2000, one month before the contract was awarded, the Treasury asked PA Consulting to examine the procurement of the Airwave Network 'in the light of emerging recommendations from a Cabinet Office review of major government IT projects':

> PA Consulting focused on risk management, deliverability and issues regarding the contract and made recommendations for changes in these areas. PITO issued a detailed response, which indicated that it would implement some of these changes, including improving how it documented the management of identified risks. [51]

[49] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraphs 2.38–2.39.
[50] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.40.
[51] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 2.41. This review led to the publication in May 2000 of the report '*Review of Major Government IT Projects, Successful IT, Modernising Government in Action*'

Contract award

42 The PFI Agreement for provision of the Airwave Network was executed on 29 February 2000.[52]

Additional central government funding

43 Following the Association of Chief Police Officers' review (see paragraph 40), several police authorities initially refused to sign service contracts, on the basis of their own best value obligations.[53]

44 In July 2000, the Home Office made available £500 million for the first three years of the PFI Agreement. This was intended to cover all contracted core service costs and also some capital and revenue costs in those years.[54]

Airwave Network roll-out

Police service users

45 Lancashire Police Service carried out the pilot for the Airwave Network, which started in November 2000, just over eight months after the PFI Agreement had been signed.[55]

46 Operational testing lasted six months, compared with a planned period of four months.[56] In September 2001, PITO accepted the pilot, subject to the following conditions:

(a) An option to return to pilot status if coverage on major roads was not resolved by February 2002 or to extend conditional acceptance;

(b) 10% of the core service charge to be withheld until a resolution of coverage on major roads was reached; and

(c) An agreement that a permanent price reduction would be negotiated if coverage could not be brought up to the contracted level, but reached a level with which police forces were content.[57]

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[52] PFI Agreement for the Public Safety Radio Communication Service (PSRCS), 29 February 2000. [✂]
[53] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 1.21.
[54] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 1.22.
[55] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 3.2 and Schedule 1.
[56] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 3.3.
[57] NAO (2002), Public Private Partnerships: Airwave (HC730), paragraph 3.15.

47 Roll-out to other police service areas began in September 2001.

48 By August 2004, all but one police service had contracted to use the Airwave Network. British Transport Police entered into a contract in March 2006 (this contract was ‘deemed to have commenced’ in August 2002).

49 The end date of the PFI Agreement was set as the last date on which the last of the (subsequently agreed) individual service contracts came to an end (ie 9 May 2020 in line with the end of the Northern Constabulary service contract).[58]

50 Originally, each police service contract had its own end date. In 2016, the Home Office negotiated a number of contract changes with Airwave Solutions as part of the 2016 change of control negotiations, including a ‘universal’ end-date for all users’ service contracts of December 2019, which itself was subject to change.

The ambulance services procurement process

51 The Department of Health (now the Department of Health and Social Care) ran an open competitive process for a new communications system, split into two ‘bundles’: ‘Bundle 1’ (the radio network service) and ‘Bundle 2’ (radio terminals, control room equipment and mobile data terminals).

52 However, competition for Bundle 1 was limited:

> the Home Office contract for the Airwave network was in place and the rollout to police forces was ongoing. The significant cost of putting in place a second, competing national network and the lack of available radio spectrum limited the ability for other potential suppliers to bid. One supplier (Cogent) expressed an interest in bidding a ‘network 6’ solution and passed the qualification stage of the procurement, but later withdrew from the process for these reasons. NTL also intended to bid, offering to re-sell the Airwave Network, but ultimately withdrew from Bundle 1 during the procurement process.[59]

[58] Although this was disputed by Airwave Solutions which considered the appropriate date was in December 2020.
[59] Ambulance Radio Programme (ARP) responses to Q3 of the RFI dated 28 January 2022. [✂]

53 There was slightly more competition at the initial stage for Bundle 2. However this reduced at later stages:

> Through the course of the procurement the number of bidders reduced to two at the BAFO stage: Airwave O2 Limited (now Airwave Solutions Limited) and NTL. NTL submitted a non-compliant bid at the final stage and then withdrew it, so there was technically only one bidder at the very last hurdle). Airwave were the successful bidder for Bundle 2.[60]

54 In July 2005, the Department of Health entered into a project agreement with Airwave O2 Limited,[61] under which ambulance services in England may buy network services. This agreement provided for the Welsh Ambulance Services NHS Trust to join as a party, which it did in January 2007. The first ambulance service (North East Ambulance Service NHS Trust) to become an Airwave Network customer joined in November 2007.[62]

55 In July 2006, the Scottish Ambulance Service Board entered into a project agreement under which Scottish ambulance services could buy services from Airwave O2 Limited. The Scottish ambulance services started to use the Airwave Network in August 2010.

56 The Ambulance (England and Wales) project agreement had an end date of July 2016. The Scottish Ambulance Service project agreement had an end date of July 2017.

The fire and rescue services procurement

57 The Department for Communities and Local Government published a Contract Notice in the OJEC on 29 October 2002. Longlisted bidders were invited to submit a proposal on 31 July 2003, and Airwave Solutions was invited to submit a Best and Final Offer on 18 March 2005.[63]

58 After submitting a Revised Final Offer on 31 August 2005, the Department for Communities and Local Government notified Airwave O2 Limited that it

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[60] Ambulance Radio Programme (ARP) responses to Q3 of the RFI dated 28 January 2022. [✂]
[61] This was the name at the time for the company now known as Airwave Solutions.
[62] Airwave customer list provided in response to RFI dated 25 October 2021. [✂]
[63] Firelink project agreement and schedules, 29 March 2006, Recitals. [✂]

intended to award the contract (called the Firelink Project Agreement) to it on 24 February 2006.[64]

59 The Department for Communities and Local Government entered into the contract on behalf of itself, the Scottish Government and the Welsh Government. In April 2016, this responsibility was transferred from the Department for Communities and Local Government to the Home Office. The contract is managed by Mott MacDonald on behalf of the Home Office, the Scottish Government and the Welsh Office.[65]

60 The Firelink Project Agreement originally had an end date of December 2016, which was extended to December 2019 at the time of Motorola's acquisition of Airwave Solutions.[66]

Airwave Solutions' finances from 2007 to 2015

61 At acquisition in 2007 by Macquarie,[67] Airwave Solutions' balance sheet was valued at £2.1 billion, including £780 million equipment and property assets, and over £1.3 billion of goodwill and other intangible assets.[68] GDCL took on nearly £2 billion of debt, comprised of a £1.5 billion external floating rate loan maturing in March 2014, and £500 million of internal loans.[69]

62 In the years following 2007, GDCL's debt increased to over £2.4 billion by 2013, of which £2 billion was external debt.[70]

63 In 2010, the Home Office asked the Office for Government Commerce to assess Airwave Solutions' financial status. This was prompted by concerns over the high levels of debt carried, and the critical nature of the services supplied. The Home Office noted that:

> At the time of acquisition, the business was modelled as one which would operate in perpetuity. The model projected

[64] Firelink project agreement and schedules, 29 March 2006, Recitals. [✂]
[65] Firelink presentation slides, 26 October 2016. [✂]
[66] Motorola response to putback, 22 July 2022. [✂]
[67] See section 2. Airwave Solutions was acquired by 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 document as 'Macquarie').
[68] Emergency Services Mobile Communications Programme (ESMCP): Contingency planning and ASL negotiation plan. [✂]
[69] Emergency Services Mobile Communications Programme (ESMCP): Contingency planning and ASL negotiation plan, paragraph 3.2. [✂]
[70] Emergency Services Mobile Communications Programme (ESMCP): Contingency planning and ASL negotiation plan, paragraph 3.4. [✂]

strong growth, both in the number of users and in the value-add services they would procure.[71]

64 In 2014, Macquarie sought and obtained a Scheme of Arrangement from the High Court, extending the maturity of the external debt.[72,73]

65 In 2014, the Home Office was preparing the Invitation to Tender for ESN, the successor to the Airwave Network. After the Scheme of Arrangement was granted, the Home Office considered contingency plans, based on concerns about Airwave Solutions' financial capacity to maintain services through the planned period of transition to ESN.[74]

66 The Home Office was concerned that there were 'material risks of financial failure later in the [PFI] contract life', and that this 'could potentially put at risk part of the critical national infrastructure':

> ASL [ie Airwave Solutions] itself is therefore likely to come under financial pressure during the latter years of the contract, towards the end of 2018-19. In addition, long before that point, there is a real risk of key ASL personnel leaving, potentially to work for eg successful ESN bidders.
>
> At the point at which ASL starts losing cash, there is a risk that the ultimate owners of GDCL will push ASL into administration or liquidation. This poses a risk for users remaining on the network, and while the Government has a parent company guarantee against Macquarie European Infrastructure Fund (MEIF) to reimburse it for costs incurred as a result of contract breaches, invoking this would require a prior service failure on a system which is part of the critical national infrastructure.
>
> While it is reassuring that GDCL looks to be financially secure until at least 2017, its high levels of debt and ownership of ASL gives rise to a material Airwave service

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[71] Airwave Services Limited, Forward Projection. [✂]
[72] Emergency Services Mobile Communications Programme (ESMCP): Contingency planning and ASL negotiation plan, paragraph 3.11. [✂]
[73] Internal Home Office email, 7 May 2015, referring to press story of 6 May 2015. [✂]
[74] Emergency Services Mobile Communications Programme (ESMCP): Contingency planning and ASL negotiation plan, paragraph 1.1. [✂]

continuity risk during the lengthy transition period to ESN from 2016 to 2020.[75]

67 The Home Office was also concerned that under the existing agreements and service contracts, Airwave Solutions was not obliged to provide services to many police areas where contracts were due to expire before 2019.

68 Initial discussions with Airwave Solutions about how to achieve transition to ESN resulted in Airwave Solutions proposing a blanket extension of all the service contracts to 2020. The Home Office considered this unacceptable on grounds of cost.

69 The Home Office considered that its contingency options, in a scenario where financial distress in Airwave Solutions created a risk of partial or total loss of Airwave Network coverage before transition to ESN, were to:

(a) negotiate with Macquarie to ensure continuation of service throughout the transition period;

(b) use contractual step-in rights to take over the Airwave Network service;

(c) use statutory powers to take over the Airwave Network service; or

(d) purchase Airwave Solutions and take over the Airwave Network service.

70 The Home Office's view was that options (b), (c) and (d) would present significant challenges, both legal and practical. Its proposed approach was twofold:

(a) To seek a deal with Macquarie that included acceptable extensions to relevant service contracts (preferably in terms of months rather than years); and

(b) to revise the transition period to be set out in the invitation to tender for ESN, from four years to two and a half years, with 'a reasonable amount of contingency built in for the event of overruns'.[76]

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[75] Emergency Services Mobile Communications Programme (ESMCP): Contingency planning and ASL negotiation plan, paragraph 1.1. [✂]

[76] The transition period in the Full Business Case (August 2015) and the eventual contract (December 2015) was slightly shorter than this, at 27 months.

71 During 2015, Home Office concerns about the financial risk in Airwave Solutions continued, and contingency plans and financial monitoring were recommended.[77]

Airwave Solutions' operational performance

72 Section 4 of the PFI Agreement specifies the requirements of the service, including coverage and other delivery standards. It 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%; and

(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%.[78]

73 Airwave Solutions' service contracts with police services, ambulance services and fire and rescue services include provision for required levels of service.

74 The service contracts set out performance targets for different uses (eg radio voice services, communications control interface services, disaster recovery services). For example, for the police services, voice call availability must be 99.74% or a service credit will be applied. The contracts set out 'severity' ratings for failure to meet each target, and service credits are calculated according to this weighting, and other relevant factors.

75 The police service level and service credit regime are 'intended to refer to the PFI ethos of "no service, no payment"'. However, for certain services, the credit (penalty) is designed to be higher than the equivalent payment for the delivered service:[79]

> The service level and service credit regime is intended to reflect the Private Finance Initiative ethos of 'no service – no payment' with service credits designed to reinforce the service level structure and not intended to be implemented in a punitive way. However, in order to reflect the Customer's

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[77] Home Office document, 1 February 2015. [✂]
[78] The PFI Agreement, 29 February 2000, [✂].
[79] See, for example, [✂] of Avon and Somerset Police's contract. [✂]

concerns, certain Network Services benefit from the service credit regime in a manner that is disproportionate to the associated Contract Charges being charged by the Contractor. In particular, to provide an appropriate incentive to the Contractor, any failure to provide Radio Voice Services beyond a specified time threshold will generate service credits, which significantly exceed the charge that the Customer pays for that service.[80]

76 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 its review.[81] Over the ten years to the end of 2020, Airwave Solutions has paid 0.07% of revenues back to the three main emergency service users.[82]

77 Service credits as a percentage of revenues from the three main emergency service users over the years 2011 to 2020 are set out in Table B-3.

Table B-3: Service credits payable by Airwave Solutions to the emergency services customers from 2011 to 2020 (expressed as a percentage of their respective revenues for that year)

%

Service	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average refund
Police	0.03	0.06	0.04	0.08	0.17	0.05	0.06	0.05	0.10	0.12	0.07
Fire	-0.84	0.92	0.45	0.95	2.18	0.27	0.53	0.93	0.24	1.07	0.67
Ambulance	-5.94	-1.91	1.70	0.49	0.78	-0.28	-0.22	0.10	0.04	0.78	-0.44
Weighted average	-0.62	-0.15	0.31	0.20	0.37	0.02	0.06	0.13	0.10	0.30	0.07

Note: negative numbers indicate that in that year, the customer paid Airwave Solutions in respect of service credits.
Source: Motorola's responses to Q4 of the RFI dated 30 July 2021, and Q9 of the RFI dated 13 December 2021; [✂]; CMA analysis.

78 The Ambulance Radio Programme at the Department of Health has shared concerns about the service provided by Airwave Solutions with us. We note that not all these concerns necessarily relate to matters set out in the service level agreements:

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

[80] Police services model contract, [✂]
[81] NAO (2016), Upgrading emergency service communications: the Emergency Services Network (HC 627), page 7.
[82] Motorola's responses to Q4 of the RFI dated 30 July 2021, and Q9 of the RFI dated 13 December 2021. [✂]

to 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. Notwithstanding the limitations of the Airwave Network, technology trends have moved on and the Airwave Network has [✂]. The impact of ageing infrastructure has also arguably contributed to an increasing number of potentially serious service outages and Airwave's effectiveness in responding to these incidents (particularly in terms of notifying and updating end-users) has at times been poor. However, over the last 12 months, performance has broadly stabilised.

In terms of Bundle 2 Services, it is a broadly similar picture. Airwave (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.[83]

The decision to procure ESN

79 In 2010, following the General Election, the Minister for the Cabinet Office added Airwave Solutions to the 'deal room' discussions with major suppliers[84] (an initiative to seek reduced prices from a number of major suppliers, called 'strategic suppliers'). In the view of the Home Office in a 2017 briefing note, 'Macquarie took a belligerent approach, demanding a 15 year contract extension in return for any price reduction, and discussions broke down'.[85]

80 In early 2011 the Emergency Services Mobile Communications Programme (ESMCP), was started.[86] The government set up this programme to look at

[83] Ambulance Radio Programme (ARP) responses to Q12 of the RFI dated 28 January 2022, and additional information provided on 23 September 2022. [✂]

[84] The Emergency Services Mobile Communications Programme: background to assurance work. [✂]

[85] The Emergency Services Mobile Communications Programme: background to assurance work. [✂]

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

options for replacing the Airwave Network service when the contracts would end; at the time, this was forecast as May 2020 for police services.[87]

2013 Outline Business Case

81 In December 2013, the ESMCP Board considered and agreed the Outline Business Case for the ESN procurement. The Outline Business Case set out the strategic, economic, financial, commercial and management cases for the procurement.[88]

82 The strategic case for moving to ESN was based on three principal drivers for change:

(a) contracts with Airwave Solutions were due to expire in May 2020;

(b) current contracts with Airwave Solutions did not represent best value for money when compared with similar public safety systems in Europe; and

(c) the emergency services increasingly needed high-speed mobile data capabilities which Airwave Solutions could not support.[89, 90]

83 The Outline Business Case recommended replacing the Airwave TETRA system with a mobile data-based technology, using infrastructure shared with other users:

(a) TETRA is not capable of delivering the enhanced data capabilities that are required to enable mobile working for the Emergency Services, eg access to back office systems and patient telemetry. It cannot meet the full user requirement without the addition of mobile broadband services provided either through a public MNO or through a dedicated network;

(b) TETRA's long term (10+ years) viability is questionable. It is approaching end of life although some countries (notably Germany) are still rolling out their TETRA networks. The UK network would need

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[87] NAO (2016), Upgrading emergency service communications: the Emergency Services Network (HC 627), paragraph 1.10.
[88] Emergency Services Mobile Communications Programme (ESMCP) Outline Business Case, 4 December 2013. [✂]
[89] NAO (2016), Upgrading emergency service communications: the Emergency Services Network (HC 627), paragraph 1.10: Emergency Services Mobile Communications Programme (ESMCP) Outline Business Case, 4 December 2013. [✂]
[90] Emergency Services Mobile Communications Programme (ESMCP) Outline Business Case, 4 December 2013. [✂]

considerable investment to replace obsolete equipment were it to continue beyond 2020;

(c) It would be difficult to implement a new TETRA network because this would require radio spectrum in a suitable band (around 400MHz) and most of the spectrum in this band is either used by ASL [ie Airwave Solutions] or the MOD [ie Ministry of Defence];

(d) Transition to a new TETRA network would be very difficult because roaming between networks is limited or non-existent and would require full national rollout of a parallel system before national users could transition; and

(e) TETRA systems in the UK and elsewhere have not been subject to rapid evolution compared with consumer based products because the customer base is so much smaller and the market is confined to a small number of specialist suppliers. A TETRA radio now looks almost identical to one from 2000 whereas a modern smartphone eg iPhone 5 released in 2012 has evolved to be vastly more capable than its 2000 equivalent. This situation will continue and the divergence of capability between TETRA and public mobile networks will increase over the lifetime of ESN to such an extent that users will probably stop using it except in extremis.[91]

84 The financial case considered whether a capital-based (government buying the capital investment needed to build the new network) or 'resource-based' (government paying according to a contract for services and interim milestones delivered) was preferable. It concluded that while the 'resource-based' option would increase the total cost of the project compared with the costs of a capital-based approach, (£[✂] compared with £[✂]), it would be preferable because it would:

(a) smooth the cost of the programme, and better align to its affordability envelope; and

(b) have the potential to transfer some risk away from the Home Office.[92]

[91]Emergency Services Mobile Communications Programme (ESMCP) Outline Business Case, 4 December 2013. [✂]. See also NAO (2016), Upgrading emergency service communications: the Emergency Services Network (HC 627), paragraph 1.11.
[92] Emergency Services Mobile Communications Programme (ESMCP) Outline Business Case, 4 December 2013. [✂]

85 ESMCP called this approach, of replacing the Airwave TETRA system with a mobile data-based technology, using infrastructure shared with other users, the 'Emergency Services Network' (ESN).[93]

Timelines

86 Table B-4 shows the procurement, roll-out and emergency services take-up dates for the procurement of the Airwave Network.

87 Table B-5 shows the procurement dates for ESMCP, and the original expected dates for implementation of ESN and Airwave Network switch-off.

[93] NAO (2016), Upgrading emergency service communications: the Emergency Services Network (HC 627), paragraph 4.2.

Table B-4: Airwave procurement and roll-out timeline, with joining dates of emergency service users

Month	Event
March 1993	Publication of the final report of the Review of Radio Communications in the Police and Fire Services
July 1995	Publication of the Prior Information Notice
January 1996	Project Notice published in the OJEU
January 1996	Fire service withdrew
April 1996	Outline Business Case produced
August 1996	Invitation to tender for project definitions studies issued
April 1997	BT left as the single bidder
October 1997	BT awarded a contract for a project definition study
September 1998	BT completed its project definition study
December 1998	Commercial negotiations with BT started
June 1999	Publication of the Association of Chief Police Officers' review of Airwave
October 1999	BT submitted its best and final offer
January 2000	PA Consulting's examination of the procurement
January 2000	Final Business Case produced
February 2000	BT awarded the contract for Airwave
June 2000	First police service contract signed (Metropolitan Police)
July 2000	Government announced £500 million available to fund the first three years
October 2000	Second police service contract signed (Lancashire)
November 2000	Pilot phase begun
January 2001	Bedfordshire Police
February 2001	Avon and Somerset Police
	Gloucestershire Police
	Gwent Police
	North Yorkshire Police
	Suffolk Police
March 2001	Cumbria Police
	West Mercia Police
	Leicestershire Police
April 2001	Hampshire Police
	Stafford Police
	Norfolk Police
May 2001	Warwickshire Police
	Merseyside Police
	Cheshire Police
	Devon and Cornwall Police
	Northamptonshire Police
	Strathclyde Police
June 2001	Pilot extended
June 2001	Dyfed-Powys Police
	Northern Scotland Police – latest contract expiry date before the Heads of Terms agreement: 9 May 2020
	Northumbria Police
	Surrey Police
	Thames Valley Police
	Cambridgeshire Police
	Greater Manchester Police
	Kent Police
	West Midlands Police
July 2001	Dumfries and Galloway Police
	Grampian Police
	South Wales Police
August 2001	Dorset Police
	Hertfordshire Police
	North Wales Police
	South Yorkshire Police
	Sussex Police
	Wiltshire Police
	Essex Police
September 2001	PITO conditionally accepted the pilot
September 2001	Roll-out commenced
September 2001	Lincolnshire Police
	Durham Police

October 2001	Central Scotland Police
	City of London Police
November 2001	Derbyshire Police
	Cleveland Police
	Lothian Police
February 2002	Fife Police
May 2002	Humberside Police
November 2002	Tayside Police
August 2004	Nottingham Police
July 2005	Ambulance (England) project agreement; agreement provided for Ambulance (Wales) to buy services too
March 2006	Fire and Rescue Services joined
March 2006	British Transport Police (under the terms of the contract, deemed to have a commencement date of 5 August 2002
July 2006	Ambulance (Scotland) joined
January 2007	Ambulance (Wales) joined

Source: NAO (2002), Public Private Partnerships: Airwave (HC730); Motorola's Response to Question 3 of the RFI dated 25 October 2021.

Table B-5: ESN timetable with milestone dates as expected in February 2016

2011	ESN programme started (ESMCP)
August 2012	Strategic Outline Business Case approved
December 2013	ESN Outline Business Case approved by programme board
April 2014	Contract notice published in the OJEU[94]
August 2015	ESN full business case approved by programme board
September 2015	ESN contract with KBR signed
December 2015	Contracts with Motorola and EE signed
May 2016	Final technical design
August 2016	Test rig delivered
April 2017	All ESN functionality completed
September 2017	Sufficient coverage achieved to start transition. Transition commences
December 2017	EE coverage complete
December 2019	Transition completed date. Airwave turned off.

Sources: NAO(2016), Upgrading Emergency service communications: the Emergency Services Network (HC627), [✂]

[94] OJEU Contract notice published on 18 April 2014

APPENDIX C: KEY AIRWAVE SOLUTIONS CONTRACTS

Introduction

1 The purpose of this appendix is to set out the CMA's understanding of the contractual relationships between Airwave Solutions / Motorola, the Home Office and users of the Airwave Network (Motorola's customers).

2 We aim to describe in particular:

- the contractual position in 2000, 2016 and subsequently (2018, 2021 and now); and
- the extent to which key contract terms were settled in 2016 and/or to which they were subject to further negotiation and agreement.

3 This appendix will first provide a high-level overview of what appears to us to be important aspects of key contracts, before turning to a more detailed description of those contracts, of the way they relate to one another and of their terms most likely to be relevant to the competition assessment. This includes a consideration of what was agreed in 2016 (and since) in relation to these terms and how therefore it appears to us the contractual position now stands. The appendix accordingly sets out our understanding of facts and matters that support our competition assessment in section 4 of our decision report in particular.

Summary of particularly relevant contract terms

The PFI Agreement[95]

4 The PFI Agreement was entered into by the Police Information Technology Organisation ('PITO'), the original contracting public authority, and the original service provider, British Telecommunications plc ('BT'), in 2000. This followed a tendering process in which BT was ultimately the only bidder and after negotiation of the relevant terms. The current parties to the agreement are the Home Office and Airwave Solutions Limited ('ASL').

5 The agreement is essentially a framework arrangement. It sets out ASL's obligations to provide a Land Mobile Radio network and services under

[95] PFI Framework Arrangement for The Public Safety Radio Communications Service. [✂]

separate contracts with service recipients and the Home Office's obligation to pay[96] for them, for a fixed period beginning in 2000. The end date of that period was set as the last date on which the last of (subsequently agreed) individual service contracts with the blue light emergency services (see below) came to an end (a date later set as 9 May 2020).[97]

6 The PFI Agreement contains provisions setting the charges that will be paid by the Home Office and service users for the network and services; however, it does not itemise the specific price figure or the components of the charges. Instead, there is a baseline figure provided, which is subject to an indexation formula on an annual basis. It also contains provisions for benchmarking the charges, as well as the performance, quality, and service as a whole. This process is intended to enable independent assessment of whether those charges materially exceed prices that would be appropriate for the market conditions and to enable parts of the Agreement to be varied or terminated in relation to services not determined to be value for money.

7 Prior to the agreement of the HoTs in 2016, the PFI Agreement did not contain terms relating to or contemplating the extension of the contract period. It set out circumstances in which the agreement may be terminated or will expire. The former (termination) includes where control of the service provider changes without the Home Office's approval. The latter (expiry) includes where the end of the contract period is reached. It also seeks to provide for the transfer of network assets to the Home Office or an alternative service provider at the end of the agreement (by termination or expiry).

8 In that latter regard, the agreement requires the network/service provider to prepare a plan so that an alternative provider could provide the network services. That plan should divide the network assets into 'transferable' and 'non-transferable' ones. Assets are transferable where they are not part of the service provider's existing networks for providing services to other customers. They are non-transferable where they are part of those networks and are used to provide such services. The Home Office is given the option to acquire the transferable assets at fair market value when the agreement ends.

96 See paragraphs 37–42 below.
97 Although this was disputed by ASL which considered the appropriate date was in December 2020.

9 The agreement also contains provision for variation. Either the Home Office or ASL can request that changes are made to the terms. Certain variations, as explained further below, have been made.

Service contracts

10 Airwave Network services are provided by ASL to users under service contracts that are separate from, but largely mirror the framework set out in, the PFI Agreement. There are separate contracts with individual police forces (based on standard model terms of the PFI Agreement) and contracts under which services are provided to the fire and rescue and ambulance services. The contracts with the fire and rescue and ambulance services are national contracts rather than with individual local or regional services.

11 The service contracts were, in the first instance, for fixed terms (of between 10 and 15 years). They began on various dates and so had differing end dates (though these are now standardised – see below). Some of these contracts – for fire and rescue and ambulance services – were capable of extension for up to five years subject to the agreement provisions therein.

12 Like the PFI Agreement itself, each of them requires the network/service provider to prepare a plan for the transfer of the network services to an alternative provider on termination or expiry of the contract. Again, the plan should divide up the assets and identify those which are transferable to the Home Office or alternative service provider if they wish to acquire them.

Subsequent variations

13 Some of the terms of the PFI Agreement and the service contracts have subsequently been amended following negotiations between the Home Office and Motorola (and where relevant other authorities). Those amendments affect the duration of the contracts and the pricing.

14 In 2016 the Heads of Terms ('HoTs') were agreed. These provided for a uniform end date for the PFI Agreement and the services contracts and the shutdown of the Airwave Network. It was initially set as 31 December 2019, but the HoTs provided that it could be extended firstly by agreement and then by the Home Office unilaterally issuing notices setting a date. The HoTs set out that the price payable during periods of extension would be, essentially, the price already payable under the contracts.

15 In other words, the Home Office and Motorola agreed, subject to any further negotiation and agreement, a unilateral option for the Home Office to extend the provision of the Airwave Network and Services at a set price.

16 Other variations have been negotiated and agreed in 2016 and since. Some of those also relate to the duration of the contracts and the price.

17 In particular, the HoTs (and subsequent settlement agreements in 2016) also provided for the payment to the Home Office of credits to settle certain price benchmarking disputes. [✂] 31 March 2016 and 31 December 2019 [✂]. The HoTs, and the subsequent 2016 settlement agreements, also set out the Home Office's agreement to waive the benchmarking provisions in relation to the main services under the PFI Agreement and services contracts (initially) until 1 January 2021.

18 Additionally, the HoTs (and a subsequent agreement) provided for the amendment of the PFI Agreement to include obligations on ASL to provide, and the Home Office to pay for, interoperability technology ('interworking') to be used in the period of transition between the Airwave Network and ESN.

19 At the same time as the HoTs, the Home Office and Motorola agreed a Deed of Recovery ('DoR') relating to the latter's dual role in the Airwave Network and the delivery of ESN. The DoR provided for discounts to the charges for the Airwave Network and Services - [✂]% - where Motorola was the sole cause of delays of more than 90 days to the delivery of ESN. Those discounts were subsequently reduced following further negotiation and agreement in 2018 to [✂]% and then [✂]% to coincide with Motorola's delivery of key ESN milestones.

20 In February 2017, the Home Office and Motorola negotiated and agreed changes to the charges payable for the Airwave Network and Services in the event that their provision extended beyond 31 December 2019. In particular, discounts to the Home Office in the form of credits of £[✂]m a month (over 9 months from 1 January 2020 and up to a cap of £[✂]m) if monthly Airwave charges exceeded £[✂]m.

21 Following further negotiations, in 2018 and 2019 the Home Office and Motorola agreed to extend the end date for the PFI Agreement and the services contracts, and the shutdown of the Airwave Network, to 31 December 2022. They also agreed that the core service charges payable for the Airwave Network and Services from 1 January 2020 would be discounted by [✂]% (such discount being additional to those which had been agreed in 2016 and 2017). Since then, the Home Office has [✂], and the shutdown date of the Airwave Network, as 31 December 2026.)

22 Finally for present summary purposes, in December 2022 the Home Office and Motorola entered into further contractual arrangements which included an agreement to end Motorola's involvement in ESN. The aspect of this most

relevant to the Airwave Network is that the Home Office and Airwave Solutions Limited also entered into a separate agreement relating to the provision by Airwave Solutions of an interface on the Airwave Network to support interworking (the 'Interface Agreement').

23 The net effect of these subsequent negotiations and agreed variations is that, subject to any further negotiation, the Home Office retained (and retains) a unilateral option to extend the provision of the Airwave Network and services at an agreed price (based on the charges payable under the PFI Agreement and the services contracts).

Background

24 The Airwave Network is a secure private mobile radio communications network for organisations involved in public safety in Great Britain. The police, fire and rescue and ambulance services operating in the field, as well as other public services, communicate with each other securely using the network. There is currently no other secure communication network in place for emergency services in Great Britain.

25 The design, building, financing and operation of the Airwave Network were commissioned by PITO through a public procurement process initiated in 1996.[98] In February 2000, PITO (subsequently replaced by the Home Office) entered into a Private Finance Initiative Framework Agreement (the 'PFI Agreement') with BT. In 2007, the subsidiary company Airwave O2 Limited, which owned and operated the Airwave Network, was acquired by Macquarie Communications Infrastructure Solutions. Its name was subsequently changed to Airwave Safety Communications Limited and further changed to Airwave Solutions Limited ('ASL'). In 2016, Motorola Solutions Inc ('MSI') acquired ASL. MSI is also a key supplier in the design and rollout of ESN, through its subsidiary Motorola Solutions UK Limited ('MSUL'). In this appendix, the term Motorola is used to refer to MSI and to MSI and its subsidiaries, including ASL, collectively as the context requires.

26 The Airwave Network was initially only supplied, pursuant to the PFI Agreement and a series of associated individual service contracts (the 'Police Services Contracts'), to the police services. Other organisations seeking access to the Airwave Network were identified as sharer organisations ('Sharers'). However, over time separate agreements were

[98] OJEC contract notice published on 23 January 1996.

entered into on behalf of the fire and rescue and ambulance services by the relevant government authorities.

27 The result of those developments is that ASL is contracted to provide the Airwave Network to the Home Office and the other relevant authorities.

28 The relevant contracts that accompany the PFI Agreement are the Police Services Contracts (also referred to collectively in some of the relevant documents as the ‘Home Office Contracts’), and there are other associated services contracts:

- an agreement dated 29 March 2006, originally entered into with the First Secretary of State (subsequently the Secretary of State for Communities and Local Government) (DCLG) for the provision of the Airwave Network to fire and rescue services (‘the Firelink Project Agreement’). The Firelink Project Agreement was transferred from DCLG to the Home Office pursuant to the Transfer of Functions (Fire and Rescue Services) Order 2016, with effect from 1 April 2016;

- an agreement with the Department of Health dated 19 July 2005 for the provision of radio-based voice and data communication services for England and Wales (the ‘Ambulance Contract’); and

- an agreement with the Scottish Ambulance Service Board dated 18 July 2006 for the provision of radio-based voice and data communication services for Scotland (the ‘Scottish Ambulance Contract’ or ‘SAS Contract’).

Together, the Home Office Contracts, the Firelink Project Agreement, the Ambulance Contracts, and the Scottish Ambulance Contract are the ‘Blue Light Contracts’.

29 Non-emergency services using the Airwave Network service continue to be known as Sharers. Further details on the contractual arrangements for these organisations can be found below at paragraphs 133 to 138 (Sharer Organisations Contracts).

30 This appendix will consider the terms of the contracts as they were originally entered into between the Home Office, and other relevant authorities, and ASL (collectively for the purpose of this appendix the ‘Original Contracts’), some background on the Sharer contracts and then turn to the key agreements revising the Original Contracts (‘Contract Changes’).

Original Contracts

The PFI Agreement

31 The PFI Agreement sets out the agreed rights and obligations imposed on the parties, while the schedules go into detail on matters such as the services contracted for, the charging structure of those services, benchmarking and termination.

32 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 appendix, the ‘Police Services Contracts’). The Police Service Contracts are the individual contracts between ASL, and relevant police forces, concerning access to the Airwave Network and charges for such access.[99] The Home Office is also a party to the Police Services Contracts, identified as the Authority. The PFI Agreement contains, in Schedule 17, a ‘Model Services Contract’ setting out standard terms for the Services Contracts into which individual police forces enter.

33 The following sets out the key aspects of the PFI Agreement in relation to (i) duration, (ii) services provided, (iii) pricing, (iv) termination, (v) consequences of termination, (vi) penalties for breach of contract, (vii) transparency/information sharing under the contract, and (viii) variation of the contract.

Duration

34 [✂] of the PFI Agreement states that ‘unless it is terminated before expiry in accordance with the provision of this Framework Arrangement, (it) shall continue in force until the date of expiry or termination of the last to expire or terminate of any Services Contracts’. In other words, that it is to continue until the last of the Services Contracts ends. Although the contract contains general variation provisions (see below), there are no terms relating to or contemplating the extension of its duration (in contrast to the services contracts under which services are provided to the emergency services users of the network).

[99] Per the PFI Agreement, [✂]. The Services Contracts also now include the other Blue Light Contracts.

35 In this connection, the OJEC notice published about the procurement of the network stipulated that the 'Service Framework Arrangements' would be for up to 15 years and that it was expected that the initial systems would be in place by 1999 with the service fully operational by 2003. The PFI Agreement itself was originally expected to be for a duration of 19 years. In its evidence to the Public Accounts Committee in 2002, the Home Office stated: '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'.[100]

36 There appears to have been some disagreement between the Home Office and ASL as to the actual end date, due to the fact that it was driven by the end date of the last of the Police Services Contracts, rather than being a date on the face of the PFI Agreement (although the fact that there was an end date does not appear to have been disputed by any of the interested parties). The Home Office considered the end date to be 9 May 2020 (to coincide with the end of the Northern Constabulary police contract)[101], while ASL considered that it was December 2020.[102] In any event, this end date has been superseded through contractual change, as explained in further detail below.

Services

37 The relevant services contracted for under the PFI Agreement (and ultimately provided to users under their services contracts) are the 'Network Services.' These comprise 'Core Services' and 'Menu Services':

38 The Core Services are defined by a set of 'Service Descriptions' which comprise the Core Service. They are set out in [✂] and are the main network services ASL will provide to service users under their individual service contracts. They include voice services, emergency communications, data services, hand-portable coverage, and radio system vehicle coverage.

39 The Menu Services are defined in [✂]. These are services users can elect to purchase from ASL in addition to Core Services, such as voice messaging,

[100] 'Public Private Partnerships: Airwave' – House of Commons, Committee of Public Accounts HC 783 01.02.PDF (parliament.uk).
[101] Home Office slides on ESMCP, 20 August 2015 and Home Office internal email, 24 January 2016. [✂]
[102] Motorola note of meetings, 10 and 11 March 2015. [✂]

hand-portable coverage, in-service support, special coverage, performance review and statistics.

40 There is also an additional set of services which are not Network Services – 'Framework Services' – in [✂]. These are extra services to be provided by ASL to the Home Office which fall outside of those services defined in [✂] (Core Service) and [✂] (Menu Services). They include management of a viable mobile frequency assignment plan and participation in the PSRN Terminal Equipment Forum.

Pricing

41 [✂] provides for the payment of charges by the Home Office and service users. It says that 'In consideration of the provision of the Network Services in accordance with the terms of the Services Contracts, the Authority and each Customer shall pay their respective portions of the Contract Charges (as set out in each Services Contract), which shall be drawn from the Charging Structure'.

42 [✂] details the Contract Charges and Charging Structure. The Home Office and each customer will 'pay their respective portions of the Contract Charges'[103], which is derived from a charging structure set out in [✂]. A baseline figure[104] is established, which 'the calculation of the actual Core Service Charge payable in any contract year' is based on. Further details about the baseline figure include the apportionment between England and Wales, Scotland, and the British Transport Police, as well as a more granular apportionment between the various police constabularies.

- Initial Core Services charges and Menu Services charges are specified in [✂].
- These charges and indexation are subject to annual price adjustments. They are reviewed annually and are updated in line with inflation according to set formulae. Each year, the new charges are agreed from 1 February and come into force on 1 April of that year. There are provisions in place should the parties not be able to agree on the updated Core Services and Menu Services charges by 1 April of the relevant year[105]. If they cannot agree the charges, Motorola is to continue issuing invoices based on the sums applicable in the

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[103] [✂]
[104] Annex [✂]
[105] Paragraph [✂]

preceding year. Upon 'eventual agreement' of new Core Services and Menu Services charges for the year, an adjustment will be backdated 'so as to take effect from 1 April', with Motorola being entitled to invoice the Home Office and its customers accordingly. If an eventual agreement cannot be reached, then 'the matter shall be referred for resolution in accordance with the Dispute Resolution Procedure'. [✂] is, accordingly, the starting point in understanding the service charges set out in the individual service contracts.

- Schedule 8[106] also provides that should the parties agree that the [contractor] is entitled to vary the contract charges, 'in order to provide to the [Home Office] sufficient justification and visibility of the basis and effect of such variation', the contractor is required to re-run the Financial Model[107], so that 'it may validate and agree the results'. How the Financial Model shall be varied is set out in the same Schedule. The Financial Model is defined as the contractor's 'financial model in relation to the Project (as amended from time to time by agreement of the parties), an electronic copy of which has been lodged with an agreed third party as of the date hereof but which, for the avoidance of doubt, does not form a part of this Framework Agreement'.[108]

Benchmarking

43 [✂] provides for benchmarking mechanisms applicable to the services for the duration of the PFI Agreement. The purpose of these is for the Home Office to assess the continuing 'Value for Money' in respect of the level and quality of Core Services and Menu Services provided by ASL. This is reflected in [✂] which says: 'The benchmarking shall provide a detailed analysis that enables the AUTHORITY to assess the continuing Value for Money exercise of the Network Services. The term 'Value for Money' shall mean, given the service quality and service levels provided by the CONTRACTOR in relation to those available in the open market, whether the Contract Charges paid for the supply of Network Services to Customers under the Services Contracts materially exceeds pricing that would be

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[106] Part F, paragraph 38.
[107] Also referred to as the Linklaters Model.
[108] The model relates, in particular, to the level of compensation the supplier should be paid in respect of the time to the end of the original period of the PFI Agreement were the Home Office to terminate it early (See [✂] of the PFI Agreement). That is, that were the Home Office to exercise its right to do so, it would need to pay a cash amount, calculated with reference to the projected expenditure and projected revenues as set out in the Financial Model, such that it would restore Airwave Solutions' IRR to the figure set out in that model (ie [✂] %) [15% to 20%]. The model also includes [✂].

appropriate for market conditions current at the time of the benchmarking exercise. The benchmarking may also include recommendations about service delivery, service levels, service standards and "best practice" in addition to any review of Contract Charges'.

44 [✂] sets out the scope of benchmarking, the applicable process, its frequency, and the options available following the results of a benchmarking exercise. Factors to be considered when undertaking that exercise are specified to include (but are not limited to):

- the prices charged for the Airwave Network;
- the prices charged for Core Services and Menu Services (as packages);
- the basis on which the Charging Structure operates;
- the prices charged for comparable services elsewhere; and
- the scope of alternative services.

45 According to [✂], the benchmarking exercise is to take place within an initial 6-year period and subsequently at least every 5 years.

Termination

46 Under the PFI Agreement, the Home Office has the right to terminate the PFI Agreement at any time in the following circumstances:

- Change of Control –
  - [✂]: upon the occurrence of a Change of Control of ASL. A 'Change of Control' is an event under which someone acquires direct or indirect control of ASL.
  - There is an obligation on ASL to notify the Home Office within two months of any change of control.[109] [✂] of the PFI Agreement additionally obliges ASL to inform the Home Office 'immediately in

[109] [✂] of the PFI Agreement additionally obliges ASL to inform the Home Office 'immediately in writing in writing of any proposal or negotiations which have resulted, or are likely to result in:
[✂] control of the other party's affairs passing to another person;
[✂] a merger between the other party and another person.'

writing of any proposal or negotiations which have resulted, or are likely to result in:

  - control of the other party's affairs passing to another person;
  - a merger between the other party and another person.

– This termination right must be exercised within six months of such change of control taking place. Such right is not available where the Home Office has agreed in advance to a change of control;

- [✂]**:** provides a right of termination if ASL is subject to an Insolvency Event.

- [✂]**:** sets out a right of termination if ASL commits a material Default of any obligation under the PFI Agreement (which includes a significant or material loss or reduction in ASL's UK Government security status under [✂]) and if (other than an obligation covered by [✂]):

  – such material Default is capable of remedy and ASL fails to remedy it; or

  – such material Default is not capable of remedy.

- [✂]**:** confirms that a right of termination also exists where any other provision of the agreement expressly entitles the Home Office Authority to do so. This includes:

  – [✂]**:** where delivered 'Service Levels' set in the relevant Services Contracts are not met consistently in respect of a significant number of the Services Contracts and this is likely to have a material adverse effect on the Network Services or to materially deprive the Home Office and the service users of the benefit of the Network Services.

  – [✂]**:** where ASL commits a material breach of Quality of Services standards entitling the Home Office to terminate the PFI Agreement in accordance with [✂].

  – [✂]**:** where new 'Pilot Services' are subjected to test periods and the Home Office does not accept those services by the end of those periods;

  – [✂]: where ASL or any member of its personnel (or anyone acting on its or their behalf) does any 'Prohibited Act' or commits any offence under the Prevention of Corruption Acts 1889-1916 in relation to the PFI Agreement or any other contract with the Crown; and

– [✂]: if ASL is in breach of any security obligation specified in [✂] or is in breach of any secrecy or security obligation in any other contract with the Crown.

- In addition, the Home Office has the following rights connected to termination:

  – [✂]**:** the right to cancel any element of the Network Services following the conduct of the benchmarking process set out in Schedule 24 in the event that such process results in a recommendation that the benchmarked services do not represent Value for Money and if, despite good faith negotiations and including, where appropriate, use of the Dispute Resolution Procedure, the parties are unable to conclude suitable amendments to the agreement within the timescale in [✂] (or other agreed period).

  – [✂]**:** The Home Office may also, at any time, terminate the PFI Agreement by giving ASL not less than twelve months' notice.

Rights and obligations on Termination

47 [✂] provides that 'In the event of the termination or expiry of this Framework Arrangement (or part thereof) in accordance with [✂], the provisions of [✂] (Consequences of Termination) shall apply'.

48 [✂] covers aspects relating to the Transfer of responsibilities, treatment of assets and compensation as follows:

Transfer of responsibilities

49 [✂][110] specifies the arrangements which shall be made to ensure an effective handover of the responsibility for the provision of the Network Services from ASL to the Home Office, the individual Customers or to a replacement contractor or contractors (collectively termed 'Alternative Service Provider' in [✂]) in the event of the termination or expiry of the PFI Agreement or the Services Contracts in the circumstances specified in [✂].

[110] [✂].

50 [✄] provide for the preparation of a Service Transfer Plan (STP) which includes proposals for the successful transfer of the Network Services to an Alternative Service Provider and associated provisions.

51 [✄] states that within a stipulated six-month period in the early part of the Agreement's lifetime, the network/service provider must prepare a STP to be reviewed by the Home Office. The Home Office is to review the plan within 2 months of receipt and 'shall notify the contractor of any suggested revisions…'. Such proposed revisions are to be incorporated or discussed and resolved accordingly.

52 [✄] stipulates that the STP 'shall provide comprehensive proposals for the activities and associated liaison and assistance which will be required for the successful transfer of the Network Services to an Alternative Service Provider'. The paragraph provides a non-exhaustive list of issues and proposals that should be dealt with, which includes a list of, or proposals to be able to identify, 'all of the Technical Infrastructure, including both Transferable Assets and Non-Transferable Assets and proposals for a mechanism by which the Transferable Assets can be split from the Non-Transferable Assets'.

53 Transferable Assets are defined[111] as 'such parts of the Technical Infrastructure which are not embedded within the contractor's [ASL's] existing networks to provide services (including the contractor's regulated business) to other customers, and which are capable of transfer to an Alternative Service Provider, such items being identified by reference to the Service Transfer Plan'. Other assets are Non-Transferable Assets.

54 [✄] provides that the network/service provider (ASL) shall review and update the STP. A revised STP should have been provided on the 3rd anniversary of the PFI Agreement and 'thereafter at each subsequent anniversary (or more frequently as may be agreed between the parties) in the event that the Network Services or other circumstances have changed'.

55 [✄] states that the network/service provider (ASL) is expected to 'use all reasonable endeavours, to negotiate in such agreements as it enters into, the right for it to assign or novate to the [Home Office] any maintenance agreements and support agreements which relate to the Transferable Assets'.

[111] [✄]

56 [✂] provides that ‘In the event of the termination or expiry of this Framework Arrangement for whatever reason, ASL shall fulfil the requirements of the Service Transfer Plan (subject to being paid its reasonable costs and expenses in relation to performing the Service Transfer Plan except where termination arose due to the Default of ASL where such costs and expenses shall not be payable but shall be taken into account when assessing the liability of ASL in relation to such termination)’ and goes on to specify that ASL shall, in particular provide to the Home Office or an Alternative Service Provider all Home Office data, and relevant source codes and hardware and software.

57 [✂] addresses the provision of services in a transition period (‘Transition Services’) if the Agreement ends in certain circumstances. That is, where a ‘National Termination Scheme’ takes place in circumstances other than termination by the Home Office (under [✂]), termination by the network/service provider (ASL) (under [✂]) or expiry of the agreement ([✂]). The National Termination Scheme would involve the termination of the PFI Agreement and all Services Contracts under [✂]. [✂] sets out that the Transition Period shall begin on commencement of the National Termination Scheme and sets out the payment of Transitional Contract Charges, the charged to be paid by the Authority to the Contractor during each year of the Transition Period.

Compensation

58 [✂] also covers the payments due to ASL on termination. [✂] provides that ‘[✂]:

- payments specifically set out in [✂] or elsewhere in the PFI Agreement or in any Services Contracts;
- payments due to the Contractor in the event of the exercise by the Authority of the break option;
- payments due to ASL in the event of the termination of this PFI Agreement or any Services Contract due to a Force Majeure Event; and
- claims in respect of liability owed to ASL in the event of termination by ASL due to a Contractor Termination Event or any pre-existing claims which the Contractor may have against the Authority or any Customer.

59 [✂] specified how ASL will be compensated in the event that the PFI Agreement is terminated by the Home Office in accordance with the terms of [✂] by way of break notice.

Assets

60 [✂], meanwhile, provides for both the Home Office's options for dealing with Transferrable Assets on termination or expiry of the agreement and associated payments it would need to make. These are set out in [✂].

61 The stipulated possibilities include the option for the Home Office to require ASL to transfer (whether by sale, licence etc) the Transferrable Assets to the Home Office or an Alternative Service Provider. [✂] provides that 'such option shall be exercisable by the [Home Office] as soon as possible but in any event within 3 months following the date of any early termination of this Framework Agreement, or no later than three months prior to the end of any Transition Period or expiry date of this Framework Agreement'.

62 [✂] states that 'if the [Home Office] exercises such option, the [Home Office] or an Alternative Service Provider shall, within 30 days of the exercise of the option, pay to ASL the agreed fair market value of such assets and contracts as are transferred to the Authority or an Alternative Service Provider'. There is no reference within the PFI Agreement as to the how the fair market value is to be calculated or defined.

Penalties for breach of contract

63 [✂] deals with the steps the contracting parties must take in the event of a breach of the Agreement. Its essence is that in the event of a failure to provide services in accordance with the Agreement, ASL must remedy that failure (where possible). The costs of doing so would lie with the party at fault. The clause says:

> [✂]

Process for variation of contract

64 The process for varying the PFI Agreement is governed by [✂] and [✂] and sets out the following:

- No aspect of the PFI Agreement is in principle out of scope of such a request.
- [✂] sets out the process by which any change can be requested by the Home Office or recommended by ASL.
- [✂] sets out the obligations on each of the Parties in considering any change request. It states that 'Neither the Home Office nor ASL shall unreasonably withhold or delay its consideration or agreement to any

change. For the avoidance of doubt, any withholding of agreement by the Home Office shall not be considered to be unreasonable where any change recommended by ASL would or might (in the opinion of the Home Office) result in ASL's provision or performance of the Services under this Framework Arrangement failing to conform to the terms of this Framework Arrangement.'

- [✂] provides for ASL to be compensated for the implementation and operation of any change: [✂]

Police Services Contracts

65 There are police services contracts in place for each of the various constabularies in England, Wales, and Scotland. These are based on the model terms in [✂] to the PFI Agreement.

66 The start dates of the Police Services Contracts vary. The earliest contract in place is understood to be from 29 June 2000, 4 months after the PFI Agreement became effective. It is understood that the duration of the Police Services Contracts was 15 years from the Ready For Service (RFS) date they contain. [✂] of the Police Services Contract provides that the customer and the Home Office may, by giving the appropriate notice (in accordance with [✂]) to the Contractor, extend the original term of the Services Contract beyond the expiry date and in accordance with [✂] of the same Services Contract.

67 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 Services Contracts will automatically be terminated without notice to the parties.

68 [✂] of the Police Services Contract states that charges in relation to Core Services are payable by the Home Office, while Menu Services charges are payable by the relevant police force customer. This position is reinforced in [✂], which sets out obligations between the Home Office and the police force regarding payment.

69 [✂] contains more details of the structure of the Core Services and Menu Service Charges. It refers back to [✂] in the PFI Agreement (see above).

Termination and Consequences of Termination

70 [✂] deal with termination of the Police Services Contract. The former deals with circumstances in which termination may occur and the latter its consequences.

71 [✂] states that the police contracts ‘shall terminate without notice to either party in the event that the [PFI] Framework Arrangement is terminated pursuant to the terms thereof’. If termination of the PFI Agreement ‘occurs (i) pursuant to [✂] of [it] …., such termination shall be deemed under this Services Contract to be a termination due to [✂]’. Where termination is due to any other provision in the PFI Agreement, it will not be termination due to the default of ASL and it accordingly will not be held liable under the Police Service Contracts in relation to such termination.

72 [✂] entitle the relevant police force to terminate the Police Services Contract at any time if there is an ‘Aggravated Breach’[112] or ‘material Default’[113] by ASL of the obligations set out in it and there is a failure to remedy such a breach (or it is not possible to do so). [✂] states that the police force ‘agrees that it will not exercise its rights under [✂] frivolously or in relation to minor, cosmetic or inconsequential Defaults’ and in the first instance will consult with ASL and engage the applicable Dispute Resolution procedure.

73 [✂] put the parties on notice that the relevant Police Services Contract ‘represents part of a national service provided by [ASL] to Forces in England, Wales and Scotland under the [PFI Agreement], and that any termination (in whole or in part) of this Services Contract may have consequences for neighbouring Forces and the national nature of the service provided by [ASL]’. The relevant police force is under an obligation to notify the Home Office of any intention to terminate its Police Services Contract under [✂], obtain prior written consent from the Home Office and provide a copy of that to ASL.

74 [✂] of the Police Services Contract details the arrangements that apply to ensure an effective handover should termination or expiry of the contract as prescribed under that schedule take place. It refers to [✂][114] of the PFI

[112] Defined in Metropolitan Police Services Contract, [✂]
[113] Defined as ‘any breach by a party to this Services Contract of its obligations under this Services Contract (including a fundamental breach or breach of a fundamental term) or any failure by that party to perform such an obligation or any negligent or criminal act or omission of that party, its employees, agents or sub-contractors in connection with or in relation to the subject-matter of this Services Contract’.
[114] See paragraph 49. above

Agreement, in particular that there is an obligation on ASL to prepare a Service Transfer Plan, ‘setting out a plan for the successful transfer of the Network Services, at a national level, to an Alternative Services Provider’.[115] The expectations and obligations set out in this Schedule derive from [✂] of the PFI Agreement. This includes the requirement for ASL to sell Transferable Assets to the Home Office at the latter’s option for ‘fair market value’. As with the PFI Agreement, there is no reference within the contract as to how the fair market value is to be calculated or defined. [✂] in the Police Service Contracts states that ‘if the fair market value of such assets cannot be agreed, it shall be determined through the Dispute Resolution Procedure.’

75 [✂] in the Police Services Contract further provides that ASL shall immediately repay to the Home Office or customer (as appropriate) any sums that had been paid in advance for Network Services not performed at the time of its termination or expiry.

76 [✂] provides that ‘In the event of the termination or expiry of this Services Contract for whatever reason, the CONTRACTOR shall fulfil the requirements of the Force Services Transfer Plan’. It is almost identical to [✂] in the PFI Agreement.

Compensation

77 [✂] also deals with the payments due to ASL on termination in a similar way to [✂] of the PFI Agreement. [✂] states ‘No payments and/or compensation shall be due to the CONTRACTOR in the event of termination of this Services Contract except:

(a) payments specifically set out in this Schedule or elsewhere in this Services Contract or as provided in [✂] of the [PFI Agreement];

(b) payments due to [ASL] in the event of the termination of this Services Contract due to a Force Majeure Event; and

(c) claims in respect of liability owed to [ASL] in the event of termination by [ASL] upon a Contractor Termination Event or any pre-existing claims which [ASL] may have against the [police force] CUSTOMER or the [Home Office]’.

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115 [✂] Police Services Contract, [✂]

Assets

78 Alongside the other provisions relating to the transfer of assets, [✂] provides that ASL shall 'use all reasonable endeavours to negotiate, in such agreements as it enters into, the right for it to assign or novate to the [relevant police force] any maintenance agreements and support agreements which relate to the Transferable Assets which are to be transferred to the [relevant police force]. Such right to assign or novate shall be exercisable upon the expiry or termination of this Services Contract and shall relate to the elements of the Transferable Assets…'. Transferable Assets has the same meaning as that defined in the PFI Agreement.

Fire & Rescue Services Contract (the 'Firelink Project Agreement')

79 The Firelink Project Agreement is a contract with the Home Office under which ASL 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 not separate services contracts with each Qualifying Fire Authority.[116]

80 The Firelink Project Agreement commenced on 29 March 2006, to continue for a period of 10 years and 9 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[117]. In addition, under [✂], the Home Office has 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 1 months' notice.

Services

81 [✂] provides that the services provided under the Firelink Project Agreement shall be all those set out in the 'Authority Requirements and the Solution' in [✂] of the contract. Authority Requirements are defined under [✂][118] as Communication Services and Service Access Nodes. [✂] also sets the overarching aim that the services to be provided are those which achieve the Firelink project objectives. Communication services are further defined under

[116] The Firelink Main Agreement contains a number of provisions that reflect this contractual structure. For example, that Qualifying Fire Authorities cannot enter into agreements of vary the contract on the Home Office's behalf (clause 3.3).
[117] Firelink Main Agreement, [✂]
[118] [✂]

[✂][119] to include broadcast services, point-to-point services, high priority point-to-point services, short messaging and file transfers. [✂] sets out the standards and requirements which must be met or where possible exceeded in the provision of the services.

Pricing/Charging Structure

82 [✂] sets out the Charges payable to ASL and provides that it is entitled to the Capital Charges and Service Fees calculated in accordance with a specified formula. Capital Charges include one-off payments relating to the achievement by ASL of certain Milestones and subsequent Service Fees are payable once the Milestone is achieved and until the Firelink Project Agreement expires or is terminated (or as otherwise stated) ([✂]). The relevant Milestones relate to matters such as the rollout of infrastructure on a regional basis, the provision of terminal equipment and training, and the provision of documentation and interoperability of the system.

83 Unlike the PFI Agreement and the ambulance services contracts, the Firelink Project Agreement does not contain any price benchmarking provisions.

Assets

84 Like the PFI Agreement and the Police Services Contracts, the Firelink Project Agreement defines the Assets to be provided under the contract and provides for what may happen to them when the contract expires or is terminated. Assets are defined in [✂] as 'any asset, contract or right (whether tangible or intangible) which forms part of the System' and they are divided into sub-categories of assets relevant to the Firelink Project Agreement in [✂]. For example:

[✂] [✂]:

(i) [✂];

(ii) [✂];

(iii) [✂];

(iv) [✂];

[✂] [✂]:

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[119] [✂]

(a) [✂];[120]

(b) [✂];

(c) [✂];

(d) [✂];

(e) [✂];

(f) [✂];

(g) [✂];

85 [✂] of the agreement governed the Exit Plan which is to be enacted by ASL following the Termination or Expiry of the contract. [✂] states that the ASL is responsible for delivering the Exit Plan by a date no later than 6 months from the date the contract became fully effective (the 'Effective Date'). As explained in [✂], the Exit Plan must give details of all information, actions and assistance reasonably required of ASL to facilitate the provision by a New Contractor of Equivalent Services and facilitate a successful and smooth transfer of responsibility for provision of the Services in each Region.

86 In connection with that Exit Plan, [✂] sets out the Home Office's options for dealing with Transferrable Assets and provides for the retention by ASL of Non-Transferring Assets.

87 Specifically, [✂] sets out the process to be followed for the Transfer of Transferable Assets. [✂] provides the mechanism through which the Authority can select or deselect the Transferable Assets it wishes to acquire subject to the payment of a sum as set out in [✂].

88 Paragraph [✂] states that for the transfers the Home Office will pay ASL a sum equal to the Total Fair Market Value of the transferring assets. The Total Fair Market Value for these purposes is defined as set out below:

[✂]

89 The Fair Market Value of each Asset is defined in [✂] of the contract as the amount for which that asset could be exchanged in an arm's length transaction between informed and willing parties, other than in a forced or

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[120] [✂]

liquidation sale. Provisions [✂] set out how that value is to be ascertained. In particular, [✂] provides for the inspection and valuation of relevant Assets by an Independent Expert appointed by the parties 24 months prior to the contract's expiry date.

Variation of the Agreement

90 Any variation to the Firelink Project Agreement must be made in accordance with the Change Control Procedure in [✂]. That procedure sets out the process for either party to request any variation not already provided for under the express terms of the contract.

91 [✂] provides that the Home Office may at any time require a Mandatory Change and may request any other change by serving on ASL a Change Request. Mandatory Changes are set out in [✂], and include, for example, additional and replacement service access nodes, product descriptions and first line maintenance options. Alternatively, ASL may propose a change by serving a Change Request on the Home Office for its evaluation. Only where a change increases the scale or scope of the services ASL provides under the contract may it seek to increase the charges made to the Home Office.

Change of contracting party or control

92 The Firelink Project Agreement also contains certain change of party or control provisions. In particular, [✂] imposes obligations on ASL to notify the Home Office of changes to ASL's Directors and to obtain the Home Office's prior consent to certain transfers in ASL's share ownership. [✂]

Termination and Consequences of Termination

93 [✂] provide for termination of the Firelink Project Agreement.

94 [✂] covers non-default termination including automatic termination on expiry, termination for prolonged force majeure and voluntary termination. [✂] provides for the process of voluntary termination. In particular, that the Home Office is entitled to terminate the contract at any time on 12 months' notice to ASL.

95 [✂] identifies several events and circumstances as 'Contractor Events of Material Default' which give the Home Office the right to terminate the contract. They include but are not limited to the occurrence of an insolvency event to ASL, change of control of ASL and a material breach of the obligations under the contract.

96 [✂] deals with further consequences of termination or expiry of the contract. In particular, [✂] provides that ASL must implement the Exit Plan required under [✂] (see above).

Compensation

97 [✂] provides for the circumstances ('Compensation Events') in which ASL is entitled to claim Compensation under the Firelink Project Agreement. A Compensation Event is defined in [✂] as occurring where there has been a breach by the Home Office of its obligations under the contract other than to the extent that the breach arises (directly or indirectly) as a result of any Default or wilful act by ASL. [✂] states that '[✂].'

Ambulance Services Contracts

98 The Ambulance Main Agreement (referred to in this appendix as the 'Ambulance Contract') was entered into by the Department of Health and ASL on 19 July 2005. It covers ambulance services in England and Wales.[121] The Scottish Ambulance ARRP Agreement ('SAS Contract') is a separate customer contract to the Ambulance Contract, covering ambulance services in Scotland.[122] The SAS Contract was entered into by the Scottish Ambulance Service Board and ASL on 18 July 2006, on terms near identical to those of the Ambulance Contract. Where we refer below to the 'Authority' in the context of the contracts we mean the Department of Health and/or the Scottish Ambulance Service Board as the case may be.

Duration

99 In both the Ambulance Contract and the SAS Contract, the duration is stated as a period of 10 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 term (see [✂]).[123] Initially at least 6 months' notice was required if the option to extend was to be exercised; however this was amended to 12 months' notice via a CCN ([✂]).

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[121] Albeit that the 'Territory' of the Contract is England and Wales is outside the Territory (see (Main Ambulance) ARRP Agreement, [✂] (Definitions)). [✂], however, sets out 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. (Main Ambulance) ARRP Agreement, [✂] (Definitions) [✂])

[122] Scottish Ambulance ARRP Agreement, [✂] (Definitions) [✂]). Ambulance services in Scotland are provided by the Scottish Ambulance Service Trust.

[123] (Main Ambulance) ARRP Agreement, [✂]; Scottish Ambulance ARRP Agreement, Clauses [✂]

Services

100 Pursuant to [✂] of both contracts, the relevant services that are contracted for by the Authority are 'Network Services.' These comprise 'Core Services' and 'Additional Services.'

101 [✂] of each contract provides more detail about these services. The Schedule states that the 'Authority requires a digital, voice and data radio network which, by means of the Core Services and Additional Services, provides coverage for mobile devices and hand portable devices in densely populated areas for every Ambulance, Acute Receiving Unit and Coronary Care Unit in the National Ambulance Operational Area'. The two sub-categories of services ('Core Services' and 'Additional Services') are divided into Bundle 1 and Bundle 2.[124]

102 Those Bundles are in turn divided into Lots. Bundle 1 comprises 'Lot 1: The provision of a digital radio voice & data network'. Bundle 2 comprises 'Lot 2: The provision of mobile and hand portable Terminals for voice & data…Lot 3: The provision of Dispatcher Equipment; and…Lot 4: Systems integration and other relevant value added services applied to each local Ambulance Trust'.

103 [✂] in both the Ambulance and the SAS Contracts provides that ASL ' … acknowledges that it is not the exclusive supplier of the Service' and that the relevant customer may 'provide all or any part of the Services itself or obtain all or any part of the Services from a third party'.

Pricing

104 Under both contracts, the Authority pays charges for the Network Services on a monthly basis. [✂] of the Ambulance Contract provides that 'the Authority shall pay the Contractor the Charges for each Service in respect of each calendar month following the Payment Commencement Date for that Service in accordance with the provisions of [✂] (Charging and Service Deductions)'. Almost identical wording is in [✂] of the SAS Contract, save that the word 'Authority' is replaced with the 'Board'.

105 In both contracts, [✂] provides for Charging and Service Deductions in relation to Bundle 1 and Bundle 2.

[124] See, for example, Ambulance Contract, [✂] (Authority's Requirements – Bundle 1), [✂]

Benchmarking

106 In common with the PFI agreement, but in contrast to the Firelink Project Agreement, both the Ambulance Contract and the SAS Contract contain provisions in relation to benchmarking.

107 In the Ambulance Contract, the main provisions on benchmarking are in [✂] of and [✂].

108 Under [✂], following the third anniversary of the start of the contract (the ‘Effective Date’ of 19 July 2005) the Authority is entitled to require ‘[✂]’. The Authority would not be able to request another such review for at least 24 months ([✂]) (other than a benchmarking review for certain components included in Bundle 2 (see [✂])).

109 Schedule [✂] sets out the details of the benchmarking process. The Authority can select an independent third party (‘Benchmarker’) to undertake the review, but it must not be a ‘material competitor’ of ASL. There is also an obligation on the Authority to declare if the third party selected to do the benchmarking has a ‘material competitor’ of ASL as a client.

110 The Schedule also includes a description of ‘Good Value’, which takes into account charges being less or equal to a specified threshold ([✂]) as well as service level specifications ([✂]). It is explicitly stated in this schedule that benchmark reviews ‘shall not result in any increase to the Charges (either individually or in aggregate) or any decrease in the performance of any Services or Service Level Specifications’ ([✂]).

111 Schedule [✂] further provides (in [✂]) that ‘[✂].’ [✂] says that if a Benchmarking Review results in that determination and ASL does not reduce the charges within three months and, if requested, improve the Services and/or Service Level Specifications within six months, that will be a contractual default (by ASL).

112 ASL has a right to make submissions to the Benchmarker, but it cannot dispute the Benchmarker’s decision unless there has been a failure by the Authority or the Benchmarker, or it ‘reasonably considers’ the decision to be rooted in ‘bias, procedural irregularity and irrationality’ (see [✂]). If there is such a dispute, it will be subject to the Dispute Resolution Procedure set out in [✂] of the Ambulance Contract.

113 The terms concerning dispute resolution in [✂] set out that the parties are expected to negotiate in good faith to resolve any Benchmarking dispute or claim that may arise. If the dispute cannot be resolved without it becoming contentious, arbitration is available to the parties. Where court proceedings

have not commenced, there is a requirement on the Authority to serve on ASL a notice that the dispute be referred to arbitration.[125] In the event that court proceedings are commenced, the courts of England and Wales have exclusive jurisdiction.[126]

114 The SAS Contract also includes benchmarking provisions similar to those in the Ambulance Contract. One thing of note is that the Scottish Ambulance Service Board is reliant on the Authority under the Ambulance Contract exercising its Benchmarking rights, before the Board can exercise its own rights ([✂]).

Variation of the Ambulance Contract and the SAS Contract

115 [✂] provides that the Ambulance Contract 'may not be varied, except by agreement in writing' and 'signed by duly authorised representatives of the parties'.

116 [✂] sets out the Change Control Procedure which applies to all changes excluding those otherwise expressly provided for in the Ambulance Contract. [✂] provides that ASL may at any time submit to the Authority a written proposal for amendments to or substitution of the Technical Solution it provides under the contract (with the caveat under [✂] that the amendment shall not be a change entitling ASL to any payment or to any relief from the performance of its obligations under the contract).

117 There are equivalent provisions in the SAS Contract.

Termination and Consequences of Termination

118 The Ambulance Contract and the SAS Contract contain identical termination provisions.[127]

119 [✂] is concerned with termination for default, either by ASL or the Authority. Under [✂] defaults by the former include insolvency; material breaches of confidentiality; 'any Critical Service Failure;' 'or any act or omission which results in 'material damage to the reputation of the Authority'. Under [✂] they also include termination for a change of control of ASL without the Authority's prior written consent (or unless permitted under [✂]). [✂] sets out the Authority's options in respect of ASL's defaults. They include

[125] [✂] – in both the main Ambulance Contract and the SAS Contract
[126] [✂] – in both the Ambulance Contract and the SAS Contract
[127] Save where the latter refers to the 'Board' rather than the 'Authority'.

termination with immediate effect via written notice, demanding that particular breaches be rectified within a specified time, and withholding payment.

120 Defaults by the Authority are covered in [✄]. They comprise '[✄]'. If such an event occurs, under [✄] ASL is entitled to terminate the contract by giving 30 days' written notice if the total liability exceeds specified financial limits (in [✄]).

121 [✄] provides for non-default termination. In particular, [✄] provides that the contract terminates automatically on expiry of the term (or the term as extended under clause 3 of the contract).

122 [✄] is concerned with the effects that termination or expiry of the contract has on a number of matters, including continuing effects of the contract; the obligation on ASL to provide an exit plan; transfer to the Authority of assets and contracts; transitional arrangements and costs. These are set out in more detail below as far as the exit plan and asset transfer provisions are concerned.

Compensation

123 [✄] in both the Ambulance Contract and the SAS Contract provides for compensation in the event of termination. Together with [✄] the provisions seek to operate as liquidated damages clauses. They set out fixed sums the parties agree should be paid in full and final settlement on termination of the contracts.

Assets

124 [✄] of both the Ambulance Contract and the SAS Contract defines the Assets falling under the contracts as 'all assets and rights used by [ASL] or any Contractor Party to provide the Services in this Agreement'. They include ASL's ICT infrastructure, any rights in software, intellectual property rights, books and records used to provide Services, as well as 'any land, buildings, vehicles and other tangible assets which the Contractor uses to

provide services'. They expressly exclude the Authority's Assets ('Sole Use Assets').[128]

125 The definition of these Assets is important in connection with the provisions of the contract dealing with the consequences of its termination or expiry. They help identify categories of Assets that may be transferred to the Authority. To that end, there is also a definition of 'Transferable Assets' in [✂]. They comprise 'those Assets that the Authority has the right to acquire upon Termination, Expiry, or and Service Transfer pursuant to [✂] (Exit and Service Transfers Arrangements)'.

126 [✂] and [✂] then contain detailed provisions that seek to deal with the end of the contracts (on termination or expiry) and what should happen to the Assets.

127 In particular, [✂] of both contracts requires the network/service provider (now ASL) within six months of the contract coming into effect to produce an Exit Plan based on [✂] of the contracts. That plan must provide for the orderly transition of the Services from the provider (ASL) to the Authority or any replacement supplier on termination or expiry of the contract. Under [✂], ASL must update the Exit Plan not less than once a year. If the parties do not agree the contents of the updated Exit Plan, they may refer the matter to a dispute resolution procedure.

128 Under [✂], on termination or expiry of the contract the Authority is entitled to acquire at its option any of the 'Transferable Assets.' [✂] requires ASL to transfer those requested. That transfer is at no cost to the Authority where it occurs on (i) expiry of the contract, or (ii) on termination and the Authority has already fully paid for the assets. Otherwise, a charge may be made which will be the lower of the Net Book Value of the Assets and Fair Market Value (see below), less what the Authority has already paid for them (e.g. in any charges and compensation).[129]

129 [✂] then contains further detailed provision for the operation of the Exit Plan and Asset and Services transfer arrangements:

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[128] The Authority's data, the Authority's software, the 'Specially Written Software', documentation, the Authority's ICT infrastructure and 'any other data, software, assets, equipment or other property owned by the Authority, Any Authority Service Recipient, or any Authority Party which is or may be used in connection with the provision or receipt of Services'.

[129] An ancillary requirement in [✂] requires ASL to ensure that provision is made in all contracts of any description so that the Authority will be in a position to exercise its rights under [✂] and ASL will be in a position to comply with its obligations.

- For Transferable Assets for which a charge may be made, 'Fair Market Value' is defined as 'the fair market value of the relevant Asset(s) calculated in accordance with…' an agreed Financial Model.
- [✂] Confirms that ASL '… is required to ensure the orderly transition of the Services … to the Authority or any Replacement Supplier in the event of any Termination or Expiry or upon a Service Transfer'.
- [✂] provides that the Exit Plan shall address the issues within the schedule 'to facilitate the transition of the Services from [ASL] to the Replacement Supplier or the Authority ensuring, to the extent possible, that there is no disruption in the supply of the Services and that there is no deterioration in the quality of the delivery of the Services during [a] Transitional Assistance Period'. This also includes how the services will be transferred, 'along with processes, documentation, data transfer, systems migration, security and the segregation of the Authority's technology components from any technology components run by [ASL] or any Contractor Party…'
- [✂] imposes obligations on ASL, including maintaining:
  - Asset registers such as a 'Register of all Assets detailing their ownership status … (separately identifying Transferable Assets) …. and both their Net Book Value and their Fair Market Value, and a Register of all Sub-Contracts and other agreements …. (separately identifying Transferable Contracts) required to operate and maintain the Project and the Services'; and
  - 'a database setting out [ASL's] ICT Infrastructure'.
- [✂] details the obligations and requirements for the Transitional Assistance that must be given on expiry or termination of the contract, including:
  - the Contractor and the Authority are to each appoint an exit manager;
  - a list of duties ASL will be expected to undertake at the option of the Authority;
  - that Transitional Assistance is/must be provided in good faith and to an agreed standard; and
  - that the Authority may require continued performance of Services under the contract.

- [✂] deals with the transfer of assets and contracts and places obligations on the Authority to give ASL notice of the Transferable Assets it requires and on ASL to transfer, sell or make efforts to secure access to Assets the Authority requires. [✂] deal with the novation/assignments of sub-contracts.

- [✂] deals with payment by the Authority to ASL for Transferring Assets and other Assets the Authority may continue to use on termination or expiry, as well as for assistance during any transitional period.

Assignment/ Change of Control

130 Again, both the Ambulance Contract and the SAS Contract impose restrictions on assignment by, and change of control of, ASL ([✂]). The restrictions in each contract are identical.

131 [✂] provides that ASL may not without the Authority's prior written consent, assign, sub-license or sub-contract, transfer, or otherwise dispose of any of its rights or obligations connected with the contract ([✂]). The Authority may make assignments, disposals or novations or require that ASL does so ([✂]). If the Authority exercising its rights leads to ASL ceasing to be the provider of Services, ASL is to be compensated. [✂] also allows for the Authority to appoint third party agents, representatives or sub-contractors (other than a Material Competitor)[130] to manage the Agreement for it or to fulfil its obligations.

132 [✂] stipulates that a change of control of shares in ASL will not be permitted without the Authority's prior written approval, where such a Change in Control would do material damage to the reputation of the Authority or a recipient of services, or where the 'person acquiring control has a material interest in the production of tobacco products and/or alcoholic beverages.'

Sharer Organisations Contract

133 A number of organisations other than the Blue Light Customers that have access to the Airwave Network. They are the Sharers. It is understood that

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[130] Defined in [✂] as '(a) any person who provides mobile voice and data communications services to members of the public in competition to a subsidiary of the Parent Company; (b) any provider of secure mobile voice and data communications services to civilian and military public safety users located in Great Britain or (c) any person who in the immediately preceding twelve month period has offered to provide, or been engaged in an invitation to provide secure mobile voice and data communications services to civilian and military public safety users located in Great Britain'

organisations identified as Sharers, include government departments[131] such as the Ministry of Defence and HM Revenue & Customs, where the contracts are of high value, as well as local authorities and energy suppliers, where the contracts are of lower value.

134 The Sharers generally are subject to pre-requisite obligations[132] before entering into a standard-form customer contract giving them access to the Airwave Network. They must:[133]

- obtain approval by Ofcom as a Sharer organisation and be added to the list of permitted Airwave Network users published by or on behalf of Ofcom;
- obtain a relevant sub-licence from the Home Office; and
- put interoperability agreements in place with all local public safety agencies.

135 Subject to the pre-requisite obligations being satisfied in full, the standard-form Sharer's contract has a minimum duration of 2.5 years, significantly shorter than the Blue Light Contracts.

136 Sharers are not afforded the same level of access to the Airwave Network as the Blue Light Customers. They are required to acknowledge that the services provided by ASL may change and '[✂]'. Further, the Sharer is required to acknowledge that '[✂]'[134]. The support provided to Sharers by ASL is limited to 'working hours' - between 9am and 5pm Monday to Friday. Support outside of these times may incur further charges in addition to what the Sharer is required to pay for services.[135]

137 It is understood that the services available for Sharers varies, subject to the subscription package it selects. Some organisations may require coverage in a specific area and therefore would opt for an 'Airwave Direct Campus' subscription package. Another subscription packages include 'Airwave Direct Core', which 'provides nationwide access to the core network and radio terminal features and functionality, focusing on what is essential for

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[131] There are some arrangements for certain national public services, that are dealt with under the Crown Commercial Service framework.
[132] This is not applicable to Sharers such as the Ministry of Defence and HMRC, who do not enter into standard form arrangements i.e. CCS Framework terms
[133] AWD Managed Services Agreement, [✂]
[134] AWD Managed Services Agreement, [✂]
[135] AWD Managed Services Agreement, [✂]

operational communications'[136]. The third package is 'Airwave Direct Complete' which is the most comprehensive subscription package, including the 'most comprehensive selection of Airwave features and functionality'.

138 The Charging Structure for Sharers is similar to that set out in the PFI Agreement. [✂] deals with pricing. There is an indexation formula in place which is to be used when determining charges on an annual basis. [✂] provides that '[✂]'. [✂] is more specific on pricing, setting out connection fees for equipment/terminals, annual subscription packages, as well as discounts that may be applicable. Discounts on annual subscription fees would be subject to the number of terminals purchased from Airwave. Further discounts were available on annual subscription fees, depending on the length of the contract term.

2015/2016 Agreements

139 At the time of Motorola's acquisition of Airwave Solutions and the Airwave Network, Motorola and the Home Office entered into negotiations as to the future of the Airwave Network and ESN. The negotiations resulted in a number of agreements, including: a Deed of Undertaking, Heads of Terms ('HoTs'), a Deed of Recovery, a Benchmark Settlement agreement with respect to the PFI Agreement/Police Services Contracts, a Benchmarking Settlement agreement with respect to the Ambulance and Scottish Ambulance Contracts and an Umbrella Change Control Note ('UCCN1'), which implements the HoTs. The following sections describe terms of those agreements and their effects on the PFI Agreement and the Blue Lights Contracts.

Deed of Undertaking[137]

140 This agreement was entered into by Motorola and the Home Office on 7 December 2015. It relates to Motorola's purchase of ASL and contains its undertaking not to complete the purchase without the Home Office's approval.

141 The recitals provide the background to the agreement, noting that:

- Motorola was awarded the Lot 2 contract at the time.

[136] Airwave Direct Pricing, [✂]
[137] Deed of undertaking 7 December 2015 [✂]

- It had entered into a binding agreement to acquire ASL.
- Motorola was willing to irrevocably and unconditionally undertake to the Home Office that it would seek the written approval of the Home Office prior to the completion of the ASL Transaction.

142 [✂] establishes the undertaking set out above. Motorola undertakes to seek the Home Office's consent to the ASL Transaction and not to complete the Transaction until that consent is obtained. It specifies that the terms of any consent are to be 'satisfactory to the Authority in its absolute discretion (including, without limitation, the amount of time the Authority may take in consideration of such decision, it being understood that in the event such prior written consent is not obtained prior to 31 March 2016 the binding agreement will terminate).'

143 [✂] allows the Home Office to seek injunctive relief to stop the ASL Transaction as it notes damages may not be adequate compensation for Motorola breaching its obligation to seek the Home Office's consent. [✂] allows the Home Office to be indemnified for all loss suffered or incurred as a result of Motorola's breach of the Deed or in enforcing the Deed. [✂] clarifies that the Home Office does not need to mitigate loss under the Deed.

Heads of Terms[138]

144 This is a document that sets out an agreement to amend aspects of the PFI Agreement and, in particular, the Blue Lights Contracts as the end of the periods of those contracts and the possible shutdown of the Airwave Network approached.

145 The signatories to the Heads of Terms ('HoTs') are Motorola, the Home Office, the Department of Health, Scottish Ambulance Board and DCLG. The HoTs are legally binding on them. The agreed amendments to the Blue Lights Contracts in the HoTs were subsequently implemented through the 23 August 2016 Umbrella Blue Light Change Control Note[139] (UCCN, often referred as UCCN1)[140]

146 The overall purpose of the HoTs is set out at [✂] of the document's background section, namely to ratify:

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[138] Motorola Heads of Terms Extensions, 2016 [✂]
[139] Blue Lights Contracts Umbrella CCN, 23 August 2016 [✂]
[140] This is referred to as UCCN1 as there is a further Blue Lights Contracts Umbrella CCN signed in December 2018, this is referred to as UCCN2.

- the parties' agreement that it is in the interests of the critical national infrastructure represented by the Airwave Network to agree an orderly harmonised approach to its shut down (by reference to a 'National Shut Down Date') that is in line with the transition to ESN, as defined in the Lot 2 ESN agreement;
- Motorola's agreement to develop and supply SiteLink as to assist with interoperability between the Airwave Network and certain services to be provided by Motorola under the Lot 2 Agreement; and
- Motorola's agreement to give the Home Office access to [✂] radio transmission sites owned by ASL in rural areas, to facilitate the 'extended area service programme'. The HoTs also set out a process for the Home Office to request access to additional sites if needed.
- The HoTs then take each matter in turn. They also record dispute settlements reached separately (described further below) and an agreement relating to microwave encryption.

147 As to the shutdown of the Airwave Network, the HoTs provide for the means of setting that date and record the agreement between the parties that the date could be extended. They provide for a process under which the end date could be changed by negotiation between the Home Office and ASL until such time as the Home Office issued a National Shut Down Notice ('National Shut Down' being when the Airwave Network would cease to be provided to users nationwide, with the notice setting the date by which National Shut Down must be achieved and beginning the process for that shutdown). The HoTs also record that, once a National Shut Down Notice was issued, the date can be further delayed by the Home Office issuing a Deferred National Shut Down Notice. The shutdown could also be delayed beyond any set date for certain groups of Network users – 'Delayed Transition Groups' – to whom the Airwave Services should continue to be provided even after the National Shut Down.

148 Therefore, the HoTs give the Home Office the option unilaterally to extend the provision of the Airwave Service by issuing the relevant notices, although it is not stated how long for. The HoTs refer to the National Shut Down Date, once set, being deferred by a number of additional months, which may suggest that only a limited extension was anticipated. There is no explicit bar on the number of deferred National Shut Down Notices that could be issued (although the drafting of the HoTs may only anticipate one).

149 The HoTs also record Motorola's and the Home Office's agreement that the pricing that would apply until the National Shut Down was the price already

specified in the Blue Light Contracts subject to certain amendments agreed in the HoTs and to any further amendments resulting from any subsequent negotiations.[141] The HoTs explicitly refer to the possibility of the Blue Light Contract prices being further amended by mutually agreement through Change Control Notes.[142]

150 Further detail about the way in which the relevant contract terms were to be amended and about pricing are set out below.

Duration and extensions

151 The following summarises key terms relating to duration of the Blue Light Contracts, and consequently the PFI Agreement, as amended by the HoTs. We set out our assessment of how these terms can apply.

152 As noted above, the end date of the PFI Agreement was set by reference to the end date of the last-ending service contract with a user. The Blue Light Contracts (as set out above) all had different termination dates (the Firelink Project Agreement being due to end in December 2019, the Ambulance Contract in July 2016 and the SAS Contract in July 2017). There were various Police Service Contracts with different termination dates, the latest end date for which was 9 May 2020. The end of the PFI Agreement was, prior to the agreement of the HoTs, aligned to this latter date (although the precise date was disputed by ASL). The HoTs sought to bring uniformity to these end dates.

153 Specifically, pursuant to [✂] of the HoTs, the relevant contract end dates were aligned so that they would end at the same time: on the National Shut Down date.

154 [✂] of the HoTs set an initial National Shut Down Target Date of 31 December 2019. [✂] set out details of the process by which that target date may be changed and how the National Shut Down would be achieved.

155 Pursuant to [✂], the Home Office is required to issue a National Shut Down Notice to ASL, which specifies, inter alia,

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141 [✂]
142 [✂]: ‘The Parties acknowledge that the Airwave Services and associated Airwave Service Charges may be varied by [✂]’

- the National Shut Down Target Date (including any change from the initial National Shut Down Target Date) giving 12 months' notice of that date;
- any specific requirements of users/customers in relation to the National Shut Down; and
- the identity of any 'Delayed Transition Group(s)' that should be excluded from the National Shut Down - and to whom the Airwave Services should continue to be provided after the National Shut Down - and certain details regarding these groups' requirements, geography etc.

156 [✂] set out the process for deferring the National Shut Down if necessary and for identifying any Delayed Transition Group. In these circumstances, the Home Office may issue a Deferred National Shut Down Notice, specifying the new target dates for the National Shut Down and any Delayed Transition Groups.

157 [✂] specifies certain considerations the Home Office is required to take into account in specifying the Deferred National Shut Down Target Date, including (i) the operational needs of the users, (ii) the technical impact on the Airwave Network and the Airwave Services; and (iii) the impact on the Home Office's other dependent programmes of activity under the ESN, such as 'Lot 3'.

158 [✂] provides for the amendment of the National Shut Down by agreement between the Home Office and ASL: 'The Home Office (as the Customers' representative) and Airwave may agree to change the National Shut Down Target Date at any time up to the National Shut Down Notice date.'

159 In other words, an initial National Shut Down Target Date of 31 December 2019 was set in the HoTs. That could be changed initially by agreement between the Home Office and ASL and subsequently by the Home Office unilaterally issuing a National Shut Down Notice and a Deferred National Shut Down Notice.

Pricing

160 [✂] of the HoTs states that the Home Office (the Blue Light Contract customers) shall pay the 'Airwave Service Charges' for the Airwave Services. These are set out in Parts A and B of [✂], and the definition of Airwave Service Charges notes that they take precedence over pricing provisions in Blue Lights Contracts. However, they do not appear to alter the fundamental charging structure set out in the PFI Agreement. Rather, they

essentially (subject to certain amendments described below[143]) provide for a continuation of the existing pricing.

161 [✂] states that ASL will continue to provide the Airwave Services and the Home Office will continue to pay the Airwave Service Charges until the final agreed National Shut Down Date or the date on which Airwave Services cease to be provided to Delayed Transition Groups, whichever is the later.

162 [✂] sets out:

- In respect of the Home Office contracts, the Core Services charges payable until National Shut Down Notice are as set out in the PFI Agreement.
- For the Fire & Rescue services, the charges remain the same as specified in the Firelink Project Agreement until the National Shutdown Date (but with some adjustments from January 2017: [✂]').
- [✂] of the Schedule appear to relate to the Ambulance Contract and Scottish Ambulance Contract and set out a preliminary agreement (though subject to existing provisions within the contract regarding reductions in service leading to reduced service charges) on extension rates, which would be applicable from current service expiry dates to the National Shut Down Date.

163 [✂] sets out the agreed principles for charging for Menu Services under the PFI Agreement.

164 [✂] sets out the terms for determining the Delayed Transition Group Airwave Service Charges - this was a fixed monthly charge of £[✂] million for each Delayed Transition Group subject to an aggregate monthly cap equal to the Airwave Service Charges (i.e. the charges paid under the Blue Light Contracts) as amended.

165 In other words, in relation to pricing for Airwave Services until the National Shut Down Date agreement was reached on the following:

(a) The price (Airwave Service Charges) to be paid until the actual National Shut Down Date or the Delayed Transition Group: Shut Down Date (whichever is later). The price (broadly speaking) was the price already

[143] As well as existing provisions within the contracts regarding reductions in service leading to reduced charges.

being paid under the existing Blue Light Contracts, subject to specific changes/discounts for particular products/services which were specified in [✂] of the HoTs. ([✂] and definition of Airwave Service Charges)

(b) The price to be paid in the event that the National Shut Down Date was fixed but had to be deferred. Again, the price was the price as specified under the Blue Light Contracts subject to changes specified in [✂]. ([✂] and definition of Airwave Service Charges)

(c) The price to be paid in relation to any Delayed Transition Groups.

166 Accordingly, the Home Office and Motorola had agreed a set of terms that, subject to any further negotiation and agreement, gave the Home Office an option unilaterally to extend the provision of the Airwave Network at a set price.

Benchmarking and Settlement

167 The HoTs also provide for Motorola and the Home Office, and Motorola and the Department of Health and the Scottish Ambulance Board, to enter into settlement agreements in relation to the police contracts and ambulance contracts which would resolve (i) certain disputes between them and (ii) determine the basis on which any future benchmarking may occur.

168 Additionally, the Home Office agrees that any future price changes under the PFI Agreement from a benchmarking exercise shall take into account the capital investment made by Motorola to acquire ASL at the completion date. The settlement for the applicable Blue Light Contracts also included agreement that the Home Office waive its rights to carry out benchmarking exercises until 1 January 2021 in relation to Core Services/Bundle 1 service charges.

169 In summary, under these agreements (which are described in more detail below), the Home Office was initially granted certain cash sums amounting to £[✂] million between 31 December 2016 and 31 December 2019. It was agreed that for any period of service after December 2019, the Home Office would receive a payment or credit of £[✂] per month.

SiteLink

170 Sitelink relates to what is elsewhere referred to as interworking or interoperability. The HoTs record that:

- Motorola and the Home Office agree to vary the PFI Agreement so that ASL will provide Sitelink in accordance with a specified set of criteria (the 'SiteLink Offer' which is included in [✂] of the HoTs);
- ASL will provide SiteLink in accordance with the timeframe in that Offer; and
- if there is a delay which affects the transition to ESN (as Defined in the Lot 2 Agreement), that may entitle the Home Office to invoke the remedial action foreseen in the Deed of Recovery (see below).

This agreement was implemented using Contract Change Notices to amend the PFI Agreement (see further below).

Other implications for the Blue Light Contracts

171 [✂] of the HoTs clarifies, that save for the amendments brought about by that document, or any CCN pursuant to it, the terms and conditions in the Blue Light Contracts remain unaffected.[144]

Benchmarking Settlement[145]

172 This is the settlement agreement between the Home Office and Motorola, dated 17 February 2016, that is referred to in the HoTs (see above).

173 This settlement relates to 3 specific disputes:

- the Benchmarking Dispute, by reference to court proceedings started on 8 October 2015 by the Home Office against ASL, regarding the benchmarking of services provided by ASL under the PFI Agreement;
- the ESMCP Process Dispute, by reference to court proceedings started on 23 November 2015 by ASL against the Home Office, regarding the procurement process in relation to ESN; and
- The Microwave Link Encryption Dispute, by reference to the Home Office's concern that ASL is in breach of its contractual obligation to provide encrypted services in accordance with the PFI Agreement.

[144] Heads of Terms, [✂].
[145] Settlement Agreement, dated 17 February 2016. [✂]

174 Under the settlement, Motorola and the Home Office agreed that Motorola would pay the Home Office £[✂]m split into six instalments between 31 March 2016 and 31 December 2019. For services delivered under the PFI Agreement and Police Service Contracts after 31 December 2019, Motorola committed to ASL providing a payment or credit of £[✂] per month. The Home Office agreed to suspend its rights to undertake benchmarking exercises until 1 January 2021.

The Ambulance Settlement[146]

175 This is an agreement between the Secretary of State for Health, the Scottish Ambulance Service Board and Motorola dated 17 February 2016, and which again is referred to in the HoTs (see above).

176 At [✂] of this settlement agreement, it is explained that Motorola has been made aware that the Department of Health (i) intends to undertake a Benchmark Review and (ii) has alleged an event of default under the Ambulance Contract in respect of the on-going provision by ASL of mobile data terminals supplied by Thorcom.

177 As part of the settlement, Motorola agreed to ensure that ASL makes available to the Department of Health 40 Thorcom VR2000 Mobile Data Terminals. The Department of Health and Scottish Ambulance Board agreed to suspend their right to carry out a Benchmark Review until 1 January 2021 in respect of Bundle 1 services (see above in relation to such services in the Ambulance Contracts). In respect of Bundle 2 services, both parties agreed not to carry out a Benchmark Review until 1 July 2016 and that any change resulting from it would take effect on 1 January 2017.

Deed of Recovery[147]

178 The Deed of Recovery (‘DoR’) was entered into between Motorola and the Home Office on 17 February 2016. Its recitals note that as part of its usual risk review process prior to the award of the Lot 2 agreement, the Home Office identified a risk in MSI’s common control and ownership of ASL and MSUL (the entity responsible for delivery of ESN Lot 2) such that MSI could manipulate delivery under the Lot 2 Agreement in order to financially benefit under the Blue Light Contracts. The purpose of the DoR is to ‘specify the

[146] Settlement Agreement, dated 17 February 2016. [✂]
[147] Deed of recovery. [✂]

approaches to remediation and the financial remedy' that may be applicable in the event of certain types of delay.

179 The DoR sets out the amount payable by ASL (referred to as the Recovery Charge Adjustment) if Motorola is the sole cause of a delay to the ESN programme in excess of 90 days (in aggregate) that is not recovered during implementation. The document sets out a detailed process and conditions to be applied under the DoR.

180 The Recovery Charge Adjustment amount (set out in Schedule 1) was set to apply for each month of delay at a rate of [✂]% of the applicable Airwave Service Charges (as defined in the HoTs).

181 The DoR also sets out provisions as to Catastrophic Failure and Continuation of Service.

182 Under [✂], Catastrophic Failure is deemed to have taken place if before the Transition Completion Date (described below), (a) the Home Office serves a termination notice to MSUL 'in accordance with [✂] of the Lot 2 Agreement terminating the entire Lot 2 Agreement due to a Supplier Termination Event; and (b) at the time of such a Supplier Termination Event, the MS Supplier was not in material breach of the Lot 3 Agreement'.

183 [✂] states that MSI 'shall ensure that Airwave continues to provide the services under the Blue Light Contracts until National Shut Down (as such term is defined in the binding Heads of Terms), or if later, the cessation of any regional service provided pursuant to the terms of the Binding Heads of Terms after National Shut Down'. This is an obligation on MSI irrespective of a Mobilisation Delay, Transition Delay or Catastrophic Failure occurring, as set out in [✂] of the DoR.

184 The DoR remains effective until MSI's delivery of certain aspects of the Lot 2 Agreement. Specifically, until the 'Transition Completion Date' which is defined in the Lot 2 Agreement as 'the date of Achievement of the last Milestone to be achieved of [✂]'.

Blue Light Contracts Umbrella CCN (UCCN1)

185 UCCN1 is the document by which amendments agreed in the HoTs were made to the Blue Light Contracts. It consists of various Change Control Notes for those contracts.

186 The parties to UCCN1 are ASL, the Home Office, the Department of Health and the Scottish Ambulance Service Board. UCCN1 mainly implements what was agreed in the HoTs as to pricing and National Shut Down, but they also

deal with other matters (such as the change of the beneficial owner of ASL following its acquisition by Motorola and changes to the Charging Structure in the PFI Agreement relating to termination payments – see [✂] of UCCN1).

187 As a consequence of the changes made to the duration provisions of the Blue Light Contracts, there are also changes to the termination provisions that are given effect by UCCN1. Notably, it appears that the Home Office loses its right unilaterally to terminate those contracts (all the Blue Lights Service Users have to agree). The Home Office also agrees that, if termination of the contracts occurs for convenience (such as by way of Break Notice) after the transition to ESN has begun, it will pay more to ASL than previously agreed (the full charges due for services rather than compensation for termination).

Sitelink agreements

188 As noted above, SiteLink relates to the interworking or interoperability provisions required in the transition from the Airwave Network to ESN. The PFI Agreement did not provide for such transitional interoperability. The SiteLink provisions were therefore inserted into the PFI Agreement via Contract Change Notices.[148] Those new provisions effectively expanded the definition of Core Services in that agreement so as to include the interoperability technology. The Contract Change Notices also introduced provisions for payment and penalties for delay in respect of the interoperability technology.

2017 Agreement

2017 Agreement – Extension of Airwave Services beyond 2019[149]

189 As described above, the HoTs enabled the Home Office and ASL, prior to the issue of any National Shut Down Notice, to agree to extend the provision of the Airwave Network and Services. The agreement made between the Home Office and Motorola on 16 February 2017 relates to this.

190 The purpose of the agreement was to specify the charges that would be payable for the Airwave Network and Services in the event that their

[148] Blue Lights Contracts Umbrella CCN (UCCN1), 23 August 2016 [✂], [✂] (Wave 7000 Service); [✂] dated 1 March 2016. [✂]
[149] Letter from Airwave Solutions to the Home Office 16 February 2017. [✂]

provision extended beyond 31 December 2019. The background to the agreement was that changes were being made to the ESN programme which contemplated such an extension. The Appendix on ESN Delivery provides further information on the events that preceded the making of this agreement.

191 The agreement states: ‘it is acknowledged that this document represents a separately negotiated agreement with respect to the period following 31 December 2019 and shall not constitute precedent for any other negotiations regarding Airwave Services or charges’.

192 Under the agreement, for the period 1 January 2020 to 30 September 2020:

- Motorola agreed to credit the Home Office £[✂]m a month (over 9 months from 1 January 2020 up to a cap of £[✂]m) if there are Airwave Charges in that month AND those charges are greater than £[✂]m.

- The Home Office is not allowed to double recover in the event that Motorola is also in breach of the DoR. The Home Office can have recourse to the DoR if Motorola are in breach, but anything they may successfully claim under the DoR has to take account of any payments made under this agreement. The total recovery available to the Home Office under this agreement and the DoR is capped at [✂]% thereby in effect reducing the amount recoverable under the DoR.

Variation to the DoR

193 In February 2017, MSI and the Home Office entered into a variation deed[150] to the DoR. The variations consisted of:

- amending [✂] by deleting the time period of ‘in excess of ninety (90) days in aggregate’ so that Motorola may be liable for delays of any duration it solely causes;

- amendments to [✂] which refers to Mobilisation Delay or Transition delay and subsequent compensation due to the Home Office; and

- two key milestones, delays in respect of which may have given rise to liability on Motorola’s part, no longer being considered as such.

[150] Letter from Airwave Solutions to the Home Office 16 February 2017. [✂]

2018 & 2019 Agreements

194 Further commercial negotiations that took place between Motorola and the Home Office in 2018 led to variations to some of the relevant contracts in relation to benchmarking, National Shut Down and the DoR. A further Blue Lights Contracts Umbrella CCN (‘UCCN2’) was implemented in 2019 to give effect to these.

Airwave Extension Term Sheet

195 At the conclusion of the 2018 negotiations, Motorola and the Home Office agreed the ‘Airwave Extension Term Sheet.’[151] It sets out key terms that were to be incorporated into UCCN2. Such terms included:

- The National Shut Down Target Date being extended to 31 December 2022.
- The Airwave Services Charges (or equivalent) for all the Blue Light Contracts being discounted by [✂]% (save in respect of the Bundle 2 services of the Ambulance and SAS Contracts, the Menu Services Charges in the Police Service Contracts and the catalogue terms in the Firelink Project Agreement and the Ambulance and SAS Contracts).
- That other existing charges-related provisions and agreements in respect of the Blue Light Contracts shall remain unaffected (and may be subject to any existing discounts already in place).
- The Benchmark waiver in the 17 February 2016 Settlement Agreement being extended to 1 January 2023 (from 1 January 2021).
- The parties agreeing to amend the payment profile of the Blue Light Contracts to follow a quarterly payment profile, taking into account the new and existing discounts referred to above.
- The definitions of the interoperability technology being amended (to reflect the replacement of the ‘Wave 7000’ technology by ‘Kodiak’ interoperability technology).

[151] Airwave Extension Term Sheet, 2018. [✂]

Blue Lights Contracts Umbrella CCN2 (UCCN2)

196 On 19 December 2018, ASL entered into an agreement with the Home Office, the Department of Health, and the SAS Board (collectively 'the Authority') – UCCN2 – to further amend the Blue Light Contracts.

197 UCCN2 gives effect to the matters set out in the Extension Term Sheet. The background recitals to UCCN2 note, '… on 22 September 2018, ASL made an offer to the Authority within the Airwave Extension Term Sheet relating to an extension of the national Shutdown Target Date… and a further discount to be afforded to the Authority. The Authority now wishes to accept this offer and the Parties have agreed to reflect the relevant terms of the Airwave Extension Term Sheet on terms more particularly set out in this UCCN2'.

198 UCCN2 consists of various CCNs across the Blue Light Contracts. Annexes to these (Annex 2) record that the parties agreed to discount fees paid by the Authority in respect of Core Services Charges, but not Menu Services Charges, by [✂]%. It was agreed this would apply to all applicable Blue Light Contracts (the Home Office Contracts (and the PFI Agreement), the Ambulance Contract, the SAS Contract, and the Firelink Project Agreement). The discount was agreed to begin in the period following the extension of the Agreements, from 1 January 2020 to the National Shut Down Target Date which, at the time, was set at 31 December 2022 (see [✂] of the Change Control Notes).

199 It appears that the UCCN2 and the Extension Terms sheet provisions as to this [✂]% discount apply in addition to the discount previously agreed in 2016 and 2017, i.e. the recurring monthly credit of £[✂] and one-off discount of up to £[✂] million applying in 2020 only ([✂] of the Extension Terms stipulates that 'all existing charges related provisions and agreements in respect of the Blue Light Contracts shall remain unaffected').

200 However, while we understand from Motorola's internal documents[152] that the instalment payments (of, in effect, £[✂]m each) under the benchmarking settlement agreed in 2016 were to be converted to a pricing discount, this is not referred to in either UCCN2 or the Extension Terms sheet.

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[152] Motorola internal email dated 21 May 2021. [✂]

Further variations to the DoR in 2018 and 2019

201 In September 2018, MSI and the Home Office varied the DoR for a second time. This second variation deed[153] took into account that MSUL and the Home Office had entered into further Heads of Terms relating to the ESN Lot 2 Agreement. A number of variations to the DoR were made, notably:

- replacement of [✂] in the original DoR, which dealt with the charging adjustment mechanisms (the 'Recovery Adjustment Charge');
- a reduction of the DoR discount from [✂]% to [✂]% for the period between the delivery of specified milestones, and from [✂]% to [✂]% after their delivery ([✂]);
- A DoR 'Freeze' in which both parties agreed not to exercise or pursue their rights for a specified period ([✂]); and
- a settlement ([✂]) in relation to a Change Authorisation Note ('CAN') affecting the ESN Lot 2 Agreement. The relevant CAN would 'implement the key principles in schedule 1 to the Heads of Terms to the Lot 2 Agreement by 31 December 2018'.

202 In 2019, there appeared to be a further variation[154] to the DoR between MSI and the Home Office ('2019 Variation Deed'). The background recitals to the 2019 Variation Deed record that this 'Deed updates the DoR Variation to reflect the result of CAN-related negotiations between the Supplier and the Authority since the DoR Variation was first executed'. In other words, the 2019 Variation Deed further amends milestones that were previously varied by [✂] in the 2018 Variation Deed.

Variation to Benchmarking Settlement

203 In 2019 the Benchmarking Settlement was varied[155] (as agreed in the Airwave Extension Term Sheet – see above) to state that the Home Office would waive its right to carry out benchmarking exercises until 1 January 2023.

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[153] Deed of Variation to Deed of Recovery, 2018 [✂]
[154] Deed of Variation relating to the variation of the Deed of Recovery, 2019. [✂]
[155] Benchmarking Settlement Variation 2019. [✂]

2022 Agreement

204 In December 2022, the Home Office and Motorola entered into an agreement ('settlement agreement')[156] settling various disputes and matters in relation to the ESN programme, as well as terminating the Lot 2 Agreement (and other related agreements). As a result of the settlement agreement Motorola is no longer involved in the delivery of ESN. Under the settlement agreement the Home Office paid a settlement sum of fifteen million pounds (£15,000,000)[157] to Motorola to settle outstanding milestones and disputes.[158]

205 In light of Motorola's exit from ESN, the Home Office intends to "run a re-tendering exercise(s) for the award of a new Lot 2 contract for the provision of the Lot 2 Services (potentially in part and/or in combination with other services related to the delivery of ESN) by an alternative provider"[159].

206 The settlement agreement also includes a 'Lot 2 Waiver in respect of re-tendering of the Lot 2 services provision'[160]. Clause 9.1 states that in connection with Motorola and the Home Office's 'agreement as to the early termination of the Lot 2 Agreement', [Motorola] agrees:

9.1.1 [✂];

9.1.2 [✂]; and

9.1.3 [✂].

207 [✂].[161]

208 [✂]'.[162]

[156] Settlement Agreement, 19 December 2022. [✂]
[157] Settlement Agreement, 19 December 2022. 22 12 19 (exclusive of VAT). [✂], clause 5
[158] NAO, Progress with delivering the emergency services network, March 2023, page 4.
[159] Settlement Agreement, 19 December 2022, Recital M. [✂]
[160] Settlement Agreement, 19 December 2022, Clause 9. [✂]
[161] Settlement Agreement, 19 December 2022, Clause 10. [✂]
[162] Interworking Agreement, 19 December 2022. [✂]

APPENDIX D: CONTRACTS AND MARKET INVESTIGATIONS

1 In this appendix we make supplementary observations on Motorola's submission that 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. We start by making a broad general observation about markets and the statutory markets investigation regime, and some further preliminary commentary, that provides the context for our consideration of these questions and Motorola's submissions. The contents of this appendix supplement and support our assessment in section 3 of this decision report.

2 Our broad general observation is that the statutory powers given to us to investigate markets under the markets investigation regime and, where appropriate, to impose remedies, are premised on the basis that markets do not always deliver effective outcomes.

3 In many cases, failures to deliver effective outcomes may be in markets where larger suppliers provide goods or services to multiple customers or consumers who are not in a position to properly protect their own interests. However, there will also be circumstances, as may be the case here, where even for parties who may at first sight appear to be relatively large and knowledgeable, the competitive process is not properly protected by contractual freedom alone and, as a result, customers or consumers pay higher prices or receive worse quality than would be expected in a well-functioning market.

4 Our view therefore is that the existence of a contractual framework between the Home Office and Airwave Solutions / Motorola does not obviate the need for an investigation of whether there are features of the market that may have an adverse effect on competition. That framework does not necessarily provide a complete explanation of the competitive position of the parties and / or preclude the possibility of competitive distortions.

5 Parties may enter into contracts freely and on an informed basis. However, the observation that a party has entered into a contract freely and willingly does not in itself demonstrate that the market is working effectively or that no competition problem exists. It only suggests that the party may be better off with a contract than without. Parties may enter into contracts with suppliers who have market power, or even monopolists, if that is better than not doing

so, but the existence of those contracts does not necessarily indicate that there are no competition concerns in the relevant market.

6 Our powers and duties in the relevant part of the Act reflect the preceding points. Those powers and duties are wide. They require us to decide whether features of the relevant market give rise to an AEC and, if so, to consider whether and how to remedy it. They apply whether or not there are contracts between parties and even if any remedy we impose requires changes to those contracts.

7 We also note that the existence of a contractual relationship between parties, even if they are the main or only industry participants, does not preclude the existence of a market. A market is characterised by the interaction of supply and demand and the price that results from this interaction. Even a situation in which there are only two participants – a monopoly supplier and a monopsony buyer – bound by a long-term contract, still amounts to a market.

8 A market of the kind referred to in the previous paragraph can, in our assessment, be thought of in two aspects. There is (or was) a market for the original contract – the bidding market. There are also interactions in relation to the performance, variation, extension, renewal or enforcement of the contract once it is entered into. The former results in a legal structure where the contract defines parameters of the parties' relationships. The latter is concerned with the commercial and economic structure in which the parties' relationship exists and where, particularly in long term complex contracts, there continues to be scope for competition (as illustrated in the following paragraphs).

9 A market in which a contract was initially awarded by a competitive process can have or develop features that prevent, restrict or distort competition. Choices made by purchasers at the point of contracting may be limited or distorted by market features. The initial contract may not have anticipated, or may even have intentionally left unresolved, potential developments (see further below). Circumstances may change over time so that new features arise, or existing ones are exacerbated, with a consequent impact on the competitive process during a contractual relationship. A contract may come to an end and a lack of effective choices may tie the purchaser into a continuing relationship with the supplier.

10 We do not regard an intervention under the markets regime into existing commercial arrangements that include a contractual framework as improperly affecting contractual certainty or confidence in the effectiveness of contracts. Contracts are an important underpinning of commercial

relationships and of an effective economy, but there are occasions where features of a market result in the commercial process not working to ensure competitive outcomes for customers and consumers. Identifying and, where necessary, remedying such failures is also an important part of ensuring that market participants can have trust and confidence in their relationships.

11 We make a further observation. The analysis of contracts may form part of the CMA's market assessment, usually in order to provide a deeper understanding of how terms may provide an indicator of competitive distortions.[163] However, there are limitations to how probative contract terms themselves, particularly when looked at in isolation, can be in the assessment of the functioning of markets.

12 We generally proceed on the basis that contracts are legally binding and liable to be complied with (and enforced if not). Nevertheless, even where a supplier's responsibilities are set out in contracts, in practice its performance will often be influenced by its incentives and the competitive conditions in the market. There is a range of reasons for this:[164]

(a) Particularly in long term contracts which involve dynamic, complex, and bespoke services with a wide range of features, those services and features will not always have been definitively conceived, specified and agreed in advance. Rather, the practical challenges and costs associated with identifying all the relevant contingencies and specifying them in a contract in a comprehensive, readily-understandable and enforceable way mean that contracts often set out overall objectives and outcomes, and a framework for performance that gives the parties a degree of flexibility and/or room for further agreement about how those objectives and outcomes will be achieved. Even where contractual provisions and requirements are comprehensive, a supplier can still choose to exceed these requirements if it is sufficiently incentivised. This could be, for example, if it wishes to send a signal to existing or potential customers about its performance and strengthen its ability to win future business. Given this flexibility, competitive pressure can play an important role in disciplining suppliers and ensuring they make efforts to perform competitively beyond what is specified in the letter of the contract.

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[163] See Guidelines.

[164] These are set out in various economic and legal papers, including: Hermalin, Katz and Craswell (2006) 'The Law and Economics of Contracts' and Tirole (1999) 'Incomplete contracts: where do we stand'.

(b) Contract terms can be varied or waived by parties. The longer and the more complex the contract, and the more complex or dynamic the technological and business context, the more likely this is. The degree of competitive pressure can affect whether that supplier is able to renegotiate terms in its favour or induce a customer to waive their contractual rights.

(c) The enforcement of existing contractual terms in practice can be costly, time-consuming and risky, and potential contractual disputes may often be resolved by renegotiation of the terms rather than litigation. This can be due to uncertainty about the interpretation of specific terms or wider considerations, such as the cost and reputational impact of enforcement. Those factors can, in turn, affect the way parties perform their obligations or engage in discussions or disputes about them. This again is particularly likely to be the case for complex and multi-faceted contracts where in practice it is often difficult to interpret contractual terms and observe and verify a supplier's adherence to them.

(d) In addition, a customer, especially one party to a long-term contract, may be reluctant to take enforcement action where its interest is in the performance of the relevant aspect of the contract as part of long term delivery, rather than obtaining damages (which may be limited), and in maintaining its relationship with the supplier over that term in order to achieve effective delivery and continuity of supply. This is particularly likely to be the case where there is no commercially feasible alternative to the supplier.

(e) In principle, suppliers may also be influenced by the costs and reputational impact of enforcement action, for example on their other customers or potential future customers. This may lead them to make concessions that they are not contractually bound to make.

(f) Contracts reflect commercial relationships and competitive conditions at the time that the contract is entered into. They crystallise commercial understandings and provide a safeguard against future breakdowns in commercial relationships, but they do not necessarily provide the same level of protection for parties as that afforded by effective competition in a market over time. When analysing markets, the CMA's focus is on underlying economic realities as they may develop over time, including the way in which relevant parties approach transactions and commercial relationships more generally.

(g) There is a distinction to be made between what a party is entitled to contractually and the incentives that drive the behaviour of companies, including within commercial negotiations (before or after a contract is agreed). It is the combination of both that defines how a market operates.

(h) When a contract ends, any decision to extend it beyond the period specified in the original agreement, and whether to do so on the same terms, will reflect the competitive situation and the parties' relative bargaining power at the time at which the extension is agreed.

13 Some of the above points are applicable in this case. We note that the PFI Agreement and the ESN Lot 2 contract are both complex and the original term of the Airwave PFI Agreement was long. While any contract is capable of variation by the parties' agreement, it is notable that paragraph [✂] of the recitals to the PFI Agreement expressly acknowledges the dynamic and evolving nature of the parties' arrangements:

> Both parties acknowledge that the Services will need to be flexible and dynamic according to the requirements of the Authority and the Customers, and therefore may be subject to change [✂].[165]

14 Additionally, over their lifetime the interpretation and aspects of the performance of the PFI Agreement and Lot 2 contract have been the subject of amendments, and ongoing discussion or negotiation, as well as in some cases disputes and disagreements, between the contracting parties. Examples of the former are described in section 4 of, and Appendices C and E to, this report.[166] Examples of the latter that we have been made aware of, include:

(a) Discussions and subsequent disputes relating to the interpretation of the benchmarking provisions in the PFI Agreement (see section 4 of this report);

(b) uncertainty and disagreement between the Home Office and Airwave Solutions about the original end date of the PFI Agreement (see Appendix C);

(c) the limited progress in the development of the Service Transfer Plan by Airwave Solutions, despite the requirements of Schedule 15 of the PFI

[165] PFI Framework Arrangement for the Public Safety Radio Communications Service, 29 February 2000, page 1. [✂]
[166] Including in relation to the end date of the PFI Agreement, before it was changed in 2016; and the price that would apply and scope for price negotiation following the issue of a National Shutdown Notice by the Home Office.

Agreement and several attempts over an extended period by the Home Office, and other parts of government, to obtain compliance (see section 4); and

(d) discussion and disagreement as to whether prices are still negotiable following the issue in December 2021 of a National Shutdown Notice.[167]

15 In our view, the likely impact of the above issues on outcomes (in terms of price and quality) further illustrates[168] why a contract alone cannot be necessarily relied upon comprehensively to moderate parties' behaviour or to wholly isolate parties from the disciplines of market interactions.

16 It also appears to us that there are inconsistencies in Motorola's own submissions in this regard, and which support our view. In particular, it made the submissions that there has been no scope for competition since the PFI Agreement was made and that the supply of the relevant network services by Airwave Solutions is no more than a contract between two willing parties. However, in other submissions it has provided examples which show that the practical reality is that there were – or could have been – interactions between the parties after the original agreement was concluded which may be informative of the Home Office's bargaining power:

(a) Motorola's submission that there has been no scope for competition since the negotiations in 2015/16 that led to the HoTs,[169] recognises that there was a competitive interaction[170] between the parties at that time; and

(b) Motorola's submission that, in 2018, the Home Office could have accepted Motorola's offer of an extension of the operation of the Airwave Network for 10 years, with break options, in return for very substantial price discounts[171] (of between [✂]% and [✂]%), acknowledges the scope for negotiation at that point too.

17 We also note that Motorola submitted that in the 2016 HoTs the Home Office secured the unilateral right to extend the operation of the Airwave Network in

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[167] For example, letter from Home Office to Motorola, 25 January 2022, and letter from Motorola to Home Office, 24 December 2021.
[168] In addition to the analysis in section 3 of this decision report.
[169] Motorola's response to the CMA's Issues Statement, 10 January 2022, paragraph 16.
[170] Or at least an interaction in which there was scope potentially for competition to have occurred.
[171] Motorola's Response to the CMA's working paper on Scope for Competition and Market Definition, 27 May 2022, paragraph 23.

perpetuity.[172] However, Motorola has since told us that (i) the terms of the HoTs must be interpreted 'within their commercial and technical context' such that, once a National Shutdown Notice has been issued, further extensions of the operation of the network pursuant to the HoTs can only be limited in scope and for a matter of months, and (ii) more substantial extensions would be open to additional negotiation.[173]

18 The points in the preceding paragraph appear to indicate acknowledgement by Motorola that (i) we should not just rely on the contract terms in isolation to understand how the commercial relationship between the Home Office and Motorola operates; (ii) those terms should not necessarily be seen as unambiguously defining the parties' obligations and conduct; and (iii) that further scope for negotiation between the parties continues to arise.

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172 Motorola's response to the CMA's Issues Statement, 10 January 2022, paragraph 16.
173 Letter from Winston & Strawn (on behalf of Motorola) to the CMA, 16 June 2022, [✂]

APPENDIX E: DEVELOPMENTS IN THE MARKET

Introduction

1 In this Appendix, which supports our analysis in sections 3 and 4 of our report in particular, we consider factual and evidential material relating to:

(a) the asset transfer provisions in the PFI Agreement (see part 1 below);

(b) the Home Office's decision to replace the Airwave Network with ESN (part 2);

(c) the role and implications of the change of control negotiations between Motorola and the Home Office in early 2016 (part 3);

(d) the initiation of the negotiations between Motorola and the Home Office that took place in 2018 (part 4);

(e) the information asymmetry between Motorola and the Home Office (part 5); and

(f) the credibility of a transfer of the Airwave Network assets (to the Home Office or a third-party) as an option[174] open to the Home Office in price negotiations (part 6).

Part 1: The asset transfer provisions in the PFI Agreement

2 This part of this Appendix sets out factual and evidential material relating to the asset transfer provisions in the PFI Agreement, in support of our analysis in paragraphs 4.58 to 4.95 in section 4 of our report in particular.

Transferable and non-transferable assets

3 As set out in more detail in Appendix C, the PFI Agreement contains extensive service transfer clauses in [✂]. Their aim, it appears to us, was to facilitate an effective handover – under a Service Transfer Plan – of the responsibility for the provision of the network services from Airwave Solutions to the Home Office (or to the individual customers or to a

[174] As we note in section 4 of this report, 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.

replacement contractor or contractors) on the termination or expiry of the PFI Agreement.

4 The Service Transfer Plan and process for preparing it are also defined and specified in [✂] of the PFI Agreement (together with [✂]). [✂] comprises a number of clauses, including a definition of which assets were to be transferrable (see Appendix C), as follows:

> …. Such parts of the Technical Infrastructure which are not embedded within the CONTRACTOR'S existing networks to provide services (including the CONTRACTOR'S regulated business) to other customers, and which are capable of transfer to an Alternative Service Provider, such items being identified by reference to the Service Transfer Plan.

5 Technical Infrastructure is defined as:

> the technology which the CONTRACTOR shall use to deliver the Services.

6 Macquarie, when it owned Airwave Solutions, interpreted the provisions to mean that, when the PFI Agreement ended, there was 'no right of asset takeover unless that assets (sic) is dedicated and used by a single agency'.[175] 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, [✂][176] [✂][177] ([✂]).[178]

7 Motorola's response to the PDR offered us a similar view of the provisions. It said:

> ….. The asset transfer provisions, as originally drafted, were intended to provide for the eventuality that Airwave might need to run the Airwave business after the Home Office had terminated its contract, i.e. continue to provide services to any other organisations that it would manage to sign up as

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[175] Note of meeting between Motorola and Macquarie dated 10 and 11 March 2015. [✂]
[176] The right to use [✂] 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 [✂] being identified as a transferable or non-transferrable asset.
[177] 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 Contract. These sites were excluded from the [✂]. Motorola due diligence document, 5 June 2015. [✂]
[178] 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 [✂] could not be part of a wider network.

customers (the Fire and Rescue Services, the Ambulance Services and sharers)….

8 The Home Office has given us a different view of the meaning of the provisions[179]: It said:

> The Home Office believes, that to provide the services as efficiently as possible, BT intended to use (and indeed did use) its existing network and other assets, including existing assets of its Wireless Division (BT Cellnet), of which BT Wireless Limited was part, as well as purchasing and building out new assets, to form the network that would become the Airwave Network. These existing network and other assets, at least in part, were being used to provide other services to other BT customers, including, again at least in part, BT's regulated products. It was therefore necessary for PITO and BT to agree arrangements through which the HO might obtain those assets needed to ensure the transfer of services to another provider, while at the same time ensuring that BT retained those assets that BT needed to continue to provide its other services (including regulated services) to BT's other customers.
>
> The Home Office believes that the relevant provisions in the Framework Arrangement, including [✂], were 'standard' BT provisions for outsourced network services where, amongst other things, there was a shared service approach adopted for the provision of service to multiple customers.
>
> The effect of the definitions used is to limit the non-transferable assets to this technical infrastructure which were co-employed in the provision of other services to BT's other customers, over BT's other networks, at that time.

9 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.

[179] 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.

Government guidance on the treatment of assets in PFI contracts

10 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. Rather, broadly speaking, 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).

11 The Treasury published the first edition of its 'Standardisation of PFI contracts' guidance (the PFI Guidance) in 1999.[180] The PFI Guidance stated that a typical PFI contract must:

> Protect the Authority's interest by not restricting the options exercisable at or immediately before the end of the Contract. These may include:
>
> taking possession of any Assets at no cost;
>
> retendering the provision of the Service, with the outgoing Contractor making any Assets available to the new Contractor at no cost; and
>
> removing any Assets.[181]

12 The PFI Guidance suggested that PFI agreements identify assets 'with no alternative use' and those with a potential alternative use:

> The types of Assets that have no alternative use are generally those which, in any event, the Authority will want the ability to acquire on the Expiry Date, although they also include Assets which have fulfilled their purpose and whose useful economic life is at an end on the Expiry Date. Where Assets have no alternative use, the Contractor will expect to obtain its return over the life of the Contract (subject to service delivery) and there is no realistic prospect of the Contractor accepting any residual value risk at an acceptable price.[182]

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[180] The Treasury Taskforce Guidance: Standardisation of PFI Contracts (1999).
[181] The Treasury Taskforce Guidance: Standardisation of PFI Contracts (1999), paragraph 19.2.3.
[182] The Treasury Taskforce Guidance: Standardisation of PFI Contracts (1999), paragraph 19.2.1.

13 The guidance also referred to the transfer of assets to the contracting public authority where there is no practical alternative:

> Although there is no presumption of an automatic handover of Assets with no alternative use to the Authority at the end of the Contract, there is no practical alternative to transferring the Assets to the Authority in instances which include the following: ….
>
> 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 …

14 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. They are, in our view, assets it would want the ability to acquire, if necessary, to continue the operation of the network, in line with the terms of the PFI Agreement.

15 We have sought views on this matter from the Infrastructure and Projects Authority (the IPA), which is the government's centre of expertise for infrastructure and major projects. It reports to the Cabinet Office and the Treasury. The IPA has told us that:

(a) in the majority of cases, assets with no alternative use transfer to the customer at zero cost at the end of a PFI agreement; and

(b) 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.[183]

16 It also told us that '… 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'.[184]

17 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

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[183] Note of the call between the IPA and CMA, 22 May 2022.
[184] 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'.

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.

The development of the Service Transfer Plan

18 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 which has been developed – see further below). Its treatment of a number of key assets as non-transferable, and the timing with which it developed the plan, had an important impact on the development of the market.

19 The Home Office told us that, in accordance with the PFI Agreement, the first Service Transfer Plan should have been prepared in March 2002. Given the passage of time, it is unclear why it was not produced then[185] but drafts were first produced by Airwave Solutions in 2007 and then updated but not finalised between 2012 and 2014 (following repeated Home Office requests since 2007).[186]

20 The most recently produced version is the 2014 draft Service Transfer Plan produced by Airwave Solutions while still under Macquarie's ownership. We have compared its content to the requirements set out in Schedule 15, paragraphs 2 to 5, of the PFI Agreement. Based on this review, we note that the 2014 draft Service Transfer Plan appears to fall short of what was required. For example, in addition to its treatment of transferable and non-transferable assets described above:

(a) Schedule 15 requires 'comprehensive' proposals in a number of areas, including for identifying all the employees who are or may be covered by the TUPE Regulations.[187] Section 7.11 of the Service Transfer Plan provides a high-level description of Airwave Solutions' preferred approach but does not seem to us to be comprehensive;

(b) the schedule also requires 'comprehensive' proposals for the training of key members of any alternative service provider's[188] personnel. The

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[185] Although the Home Office has surmised that the demerger of BT's Wireless Division (which handled the PFI Agreement) as MM02 may have acted as a distraction or complicating factor leading to the Service Transfer Plan being delayed or not produced.
[186] Home Office internal email, 21 May 2015: [✂]. Home office internal email, 17 June 2016 [✂]
[187] Which regulations, very broadly, provide for the transfer of employees where there is a transfer of an undertaking between owners.
[188] To whom assets may be transferred.

Service Transfer Plan refers in several places to ‘training materials’ being made available, but does not provide a plan for their content, priorities or delivery; and

(c) the Service Transfer Plan does not include a model force services transfer plan,[189] as specified in Schedule 15 and requested by the Home Office.[190]

21 The Home Office was aware of the shortcomings in the asset transfer provisions and Service Transfer Plan. For example, its Airwave Strategic Business Contingency Plan (SBCyP) version 3.0 of April 2014 noted of the provisions that they[191] had the effect of:

> Rendering any prospect of a ‘Termination’ option (and by implication any attempt to take control of the ASL 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.[192]

22 The same document also said:

> The notion of a wholesale Authority exit and transfer is not rehearsed. …. the STP[193] itself is not prepared on a ‘full exit’ basis, and given that many of the contract exit obligations are ‘referred out’ to the STP to define, this creates a situation where if the Authority was obliged to instigate a full exit of the Airwave contracts tomorrow, it simply could not be sure what it’s rights, obligations, timescales and costs were going to be. Nor could it be sure what assets, subcontracts and staff it could rely on getting access to and/or transfer to its new provider…
>
> ….. Because of this, the conclusion of this report is that the collective rights of the Authority as set out in the current

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[189] Specifying how the plan would apply at a local level to each individual customer - 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. [✂]
[190] Emergency Services Airwave Service Transfer/Exit Plan, 8 January 2014, Appendix 6. [✂]
[191] The contents of which were previously referred to in paragraphs 65–71 of Appendix B to the PDR.
[192] Airwave Strategic Business Contingency Plan (SBCyP) version 3.0 of April 2014, paragraph 1.1. [✂]
[193] Service Transfer Plan.

drafts of the contracts and the Exit plan/STP cannot be regarded as a coherent and reliable way to terminate the entirety of the HMG Airwave services.

…. **Weaknesses**

… • Transferability (of assets, subcontracts et al) is a judgement/assumption that according to the STP needs to be ratified by Authority (could be seen as opportunity).

• The lack of definition in many areas of the plan creates a 'catch 22' or 'dispute cycle'.

• Lack of details regarding equipment leases, maintenance and support agreements (o/s pending further audit).

• Lack of details regarding sites – with c4000 base stations this will be time consuming task in exit.

• Need to clarify current 'compliance status' of STP between ASL and Authority.

• STP is currently 'on ice'– not maintained or updated[194].

23 The draft plan was also criticised by the NAO 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.[195]

24 Motorola has, as we note above, taken the same view of the meaning and effect of the asset transfer provisions as Macquarie did, and the 2014 draft Service Transfer Plan was not updated by Airwave Solutions after it came under Motorola's ownership in 2016. The Home Office made these requests in that latter connection:

[194] Airwave Strategic Business Contingency Plan (SBCyP) version 3.0 of April 2014, paragraphs G.2 and G.3.
[195] National Audit Office, Upgrading emergency service communications: The Emergency Services Network, 15 September 2016.

(a) in May 2021, as part of its efforts to ensure that Sharer organisations' exit from the Airwave Network was aligned with other users', the Home Office requested the contact details of those organisations. [✂];[196]

(b) in June 2021, the Home Office requested an updated Service Transfer Plan, again in the context of seeking to align Sharers' and other users' exits from the Airwave Network; and[197]

(c) following receipt of the request in sub-paragraph (b), Airwave Solutions met with the Home Office and agreed to provide a list of transferable and non-transferable assets by 2 July 2021. This was not provided despite further prompting by the Home Office.[198] Following a further discussion with Airwave Solutions, the Home Office understood 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.'[199]

25 In response to our questions about the Service Transfer Plan and its content, the Home Office told us that:

(a) the Sharers' use of the network is for the purpose of assisting the emergency services (police, fire and ambulance) and not independently of that purpose;

(b) absent the emergency services', DHSC's and the Home Office's contributions (through charges) to the cost of the network, it is likely that the cost, and therefore the charges for the services provided over it, would be prohibitively expensive for any Sharers that might wish to continue to use the network; and

(c) the use of spectrum by the network is predominantly tied to emergency service use.[200]

26 In other words, in the Home Office's view, the position of the Sharers should not affect the Service Transfer Plan and hinder the transfer of network assets in the way Airwave Solutions (Motorola) proposed (described above).

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[196] Email from Motorola to the Home Office, 19 May 2021. [✂] Email from Motorola to the Home Office, 23 August 2021. [✂] Email from Motorola to the Home Office, 29 October 2021. [✂]
[197] Email from the Home Office to Airwave Solutions, 10 June 2021. [✂]
[198] Email from the Home Office to Motorola, 21 July 2021. [✂]
[199] Email from the Home Office to Cabinet Office, 25 November 2021. [✂]
[200] Home Office response to Service Transfer Plan Questionnaire dated 18 May 2022, paragraph 22. [✂]

27 As part of ongoing negotiations in 2021 relating to the extension of the period of operation of the Airwave Network beyond 2022, the Home Office [✂].[201]

28 Motorola also provided relevant information to us at its PDR Response Hearing. It said:

- '[✂];'[202]
- In the same connection as (a), '[✂];'[203]
- No current, finalised Service Transfer Plan exists: '[✂]'[204]

29 The comments in the previous paragraph are consistent with the response Motorola gave us on the same subject in response to a request for information after the PDR Response Hearing (see paragraphs 4.87 and 4.88 in section 4 of this report).[205] We note that, in a further submission to us on 3 March 2023,[206] Motorola asserted 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 except the non-Airwave service contracts [to which Airwave Solutions is party]…' That, however, does not reflect its previous comments or any agreement with the Home Office.

30 Each of the above points goes to the uncertainty created by the asset transfer provisions, and their ineffectiveness, as described in section 4 of this report.

Asset valuation

31 Additional uncertainties were (and are) liable to arise as a result of the way [✂] of the PFI Agreement provides for transferable assets to be transferred at the end of the agreement for fair market value.[207] Under the PFI Guidance referred to above,[208] assets that have no practical alternative use 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

[201] Home Office note of meeting, 2 August 2021. [✂]
[202] Motorola Response hearing with the CMA on 10 January 2023. [✂]
[203] Motorola Response hearing with the CMA on 10 January 2023. [✂]
[204] Motorola Response hearing with the CMA on 10 January 2023. [✂]
[205] Motorola's RFI response dated 27 January 2023. [✂]
[206] Motorola letter to the CMA, dated 2 March 2023. [✂]
[207] To the Home Office or an alternative supplier.
[208] The Treasury Taskforce Guidance: Standardisation of PFI Contracts (1999).

of a standard PFI contract the key assets needed to continue to deliver public services should normally revert to the public sector free of charge.[209]

32 The PFI Guidance offers these examples of assets for which there is no practical alternative use:

> 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.[210]

33 The following points 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:

- In a statement made as part of the House of Commons Committee of Public Accounts 2002 proceedings relating to the Airwave Network, BT stated: 'Airwave is not a commercial communication system. Its whole purpose is to improve the safety of the general public and, ultimately, save lives;.[211]

- The Airwave service is predominantly provided using spectrum allocated by Ofcom and is restricted for use for public safety purposes only by the police, fire and ambulance services and approved Sharers. Ofcom is responsible for assessing whether the intended use of the service by any party applying to use it is in line with the intended purpose of the Airwave service. To be eligible to join the Airwave Network, applicants need to apply to Ofcom and meet the following criteria. Namely, that they:

  – respond to emergencies;

  – are involved in emergency situations reasonably frequently;

  – are civilian, or required to respond to civilian emergencies; and

  – require interactions with those who respond to emergencies.[212]

- Motorola told us that it is dependent on the public safety spectrum in the 380 to 400MHz range licensed to it by Ofcom specifically for the

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[209] PFI: Meeting the Investment Challenge, 15 July 2003, paragraph 3.53.
[210] Treasury Taskforce Guidance: Standardisation of PFI Contracts (1999), paragraph 19.1.1.
[211] Annex B, HC 783. HC 783 01.02.PDF (parliament.uk)
[212] Motorola technical due diligence document, 5 June 2015. [✂]

Airwave Network.[213] Motorola also told us that once the ESN network is ready, it will decommission the Airwave Network and on doing so will lose the spectrum licence.[214]

- The right to use another block of spectrum was granted to Airwave Solutions by way of a trade of spectrum from the Department of Health on 14 September 2010 and terminates on the expiry of all Airwave's contracts with police, fire and ambulance services.[215]

- Motorola's [✂] and'[216]

- Analysys Mason has estimated that approximately [✂]% (or [✂] sites) of the Airwave Network's portfolio of sites (housing its network infrastructure, including masts) are in locations potentially attractive to commercial mobile telecommunications network operators. Analysys Mason assumed that the rest (ie [✂]% of sites) would have to be decommissioned when the Airwave Network was switched off. In other words, a substantial proportion of Airwave Solutions' owned infrastructure at these sites would have no practical alternative use.[217]

34 The exit and asset transfer provisions did not provide for the transfer of transferable Airwave Network assets to the Home Office at no cost at the end of the PFI Agreement. In a further departure from general guidance,[218] the basis on which the fair market value was to be calculated is not specified in the agreement. This created further uncertainty and the potential for dispute, had the Home Office sought to purchase such assets.

35 That uncertainty and potential for dispute is ongoing. At its PDR Response Hearing, Motorola said of the meaning and determination of the fair market value of the assets:

> It would be fair market value and that would, presumably, be decided by agreement or, failing that agreement, through some contractual dispute resolution process…..[219]
>
> It's a fair market value, which is determined by the two parties in agreement. And, obviously, the contract works

[213] Motorola hearing with the CMA on 10 February 2022. [✂]
[214] Motorola hearing with the CMA on 10 February 2022. [✂]
[215] Motorola technical due diligence document, 5 June 2015. [✂]
[216] Motorola statutory impairment review, 31 December 2019. [✂]
[217] Report commissioned by Airwave Solutions from Analysys Mason, February 2022. [✂]
[218] The Treasury Taskforce Guidance: Standardisation of PFI Contracts (1999), paragraph 19.5.3.
[219] Motorola Response hearing with the CMA on 10 January 2023. [✂]

that, if the two parties can't agree, you follow the dispute resolution process. You can go to an independent expert who would make a determination …..[220]

You've made assumptions about the value of the asset base to start with, where you started from scrap value. Whether that is fair economic value or not is certainly a matter for debate…..[221]

I suppose that would be a matter for debate ….. I don't think there's an easier, really, answer….[222]

…. 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…..[223]

Part 2: The decision to replace the Airwave Network with ESN

36 This part of this Appendix sets out factual and evidential material relating to the decision to replace the Airwave Network with ESN. Its contents support our analysis in paragraphs 4.96 to 4.104 in section 4 of our report in particular.

37 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 included:[224]

(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;

220 Motorola Response hearing with the CMA on 10 January 2023., [✂]
221 Motorola Response hearing with the CMA on 10 January 2023. [✂]
222 Motorola Response hearing with the CMA on 10 January 2023. [✂]
223 Motorola Response hearing with the CMA on 10 January 2023. [✂]
224 See also paragraphs 2.70–2.84 in Section 2 and Appendix B.

(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).

38 Considering first the financial position under Macquarie's ownership of Airwave Solutions, we note that when Macquarie's European Infrastructure Fund 2 (MEIF2) acquired Airwave Solutions in 2007, it financed the deal through debt. The holding company put in place for the purpose of the acquisition, Guardian Digital Communications Ltd (GDCL), took on £2 billion of debt, consisting of a £1.5 billion external floating rate loan maturing in March 2014 and £500 million of internal loans.[225]

39 Government briefing notes record that, '…. the price MEIF2 paid was very high and appeared to reflect an assumption that indefinite contract extensions at similar prices would be available because of the difficulties of migrating away from Airwave' and that, '… at the time of acquisition, the business was modelled as one which would operate in perpetuity. The model projected strong growth, both in the number of users and in the value-add services they would procure.'[226] However, by 2010, Airwave Solutions and its owners had realised that business growth was restricted by the fixed user community, as stipulated by the Ofcom Sharers list.[227]

40 The high level of GDCL's debt related to Airwave Solutions following the acquisition started to raise significant concern in government in 2010. This followed an adverse report over the company's financial and operational performance carried out in 2009/10 by the Office of Government Commerce (OGC).

41 In a meeting with OGC in April 2010, Airwave Solutions confirmed that 'their reduced revenue stream has caused them to engage in a cost reduction exercise, but they will protect operational performance'[228]. Although Airwave Solutions indicated confidence in its ability to refinance in 2014, that it would meet its covenant target cash flows and that there was no immediate

[225] Home Office internal document: [✂]
[226] Home Office internal document: [✂]
[227] Home Office internal document: [✂]. Home Office internal document, 21 July 2010: [✂]
[228] Home Office internal document, 7 May 2010. [✂]

pressure on working capital or liquidity, government concerns remained high. It was noted by the Home Office at the time that:

> The current external debt of £1.704bn matures in 2014. This will be challenging. The cost of borrowing will be dependent on both the market conditions prevailing at the time and on the committed contractual revenue stream. Price reductions in the short term will only be feasible through concomitant cost reductions or from Shareholder acceptance of reduction in the already low rate of return on their investment. However, because the business has a high level of fixed cost, reductions in service delivery will not always create the equivalent savings.[229]

42 As to the Government's approach to public expenditure from 2010, a Home Office internal briefing note records that 'after the 2010 election, the Minister for the Cabinet Office added Airwave to the 'deal room' discussions with major government suppliers'. This was an initiative to 'renegotiate key Government contracts to release savings'. Macquarie, however, refused to agree any price reduction unless it was given a 15-year contract extension in return, and discussions broke down.[230]

43 In connection with the future provision of the network, we understand the government had been advised that any extension of the PFI Agreement (at that time and in the then current circumstances) beyond 2020 would likely be a breach of European procurement law. This view was disputed by Macquarie's lawyers at the time (but the Home Office disagreed with their assessment according to internal documents[231]). The Home Office reached the view that any extension represented too high a risk and that 'any short term savings would be more than wiped out if risks materialised'.[232]

44 Faced with the above factors relating to Airwave Solutions and the future provision of the Airwave Network, in 2011 the Government established a

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[229] Home Office documents: [✂]
[230] Home Office internal document. [✂] Home Office internal email. [✂]
[231] Home Office document, Home Office internal emails. [✂]
[232] In contrast to this position, the Home Office took the view in 2018 and 2021 that in the exceptional circumstances that then prevailed, the relevant procurement legislation enabled some extension of the duration of the PFI Agreement [✂]. At the end of 2021, the Home Office issued a contract award notice relating to the extension of the Airwave Network to December 2026, in which it relied on the Public Contracts Regulations 2015, regulation 32(2)(b)(ii) to extend the provision of Airwave from 31 December 2022 to 31 December 2026. This referred, among other things, to the significant setbacks and delays in the development of the ESN, the short duration of the current extension to enable completion of ESN and the absence of an alternative competitor.

programme, the ESMCP, to seek a solution. A Home Office briefing[233] prepared in 2017 notes that:

> At this point, the prospects for migrating from Airwave looked poor. Between 2011-12 the team exhaustively reviewed the options. Airwave had been clear there would be no material price reductions for contract extensions. There were no clear legal routes for bringing the service in house. Competing to bring in an alternative TETRA provider was considered, but after significant analysis, there was not enough to enable parallel running of two TETRA operators.

45 The government was also concerned to ensure that the future provision of the network would meet user requirements for voice and data services. This was reflected in the Outline Business Case document that was drawn up in 2013. The strategic case for moving to ESN included that the emergency services increasingly needed high-speed mobile data capabilities which Airwave Solutions could not support.[234, 235] The 2017 Home Office briefing referred to above noted in this connection:

> A range of other technologies were explored from Wifi to television white space. 2G and 3G could not support some of the key voice functionality the emergency services required, so ultimately the only alternative was likely to be Long Term Evolution (LTE) ie 4G. Given 4G needs more masts than TETRA, and the Government policy of auctioning spectrum, building a private network would have been extremely expensive, so deploying 4G over a commercial network was the only plausible option. Even then, the cost of migration and parallel running with the high costs of the current Airwave solution meant substantial investment at a time of austerity.

46 Although the Cabinet Office sought to engage further with Airwave Solutions to secure price discounts, the offers and outcomes remained, in its view, inadequate:

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[233] Home Office internal document. [✂]
[234] NAO (2016), Upgrading emergency service communications: the Emergency Services Network (HC 627), paragraph 1.10: Emergency Services Mobile Communications Programme (ESMCP) Outline Business Case, 4 December 2013. [✂]
[235] Emergency Services Mobile Communications Programme (ESMCP) Outline Business Case, 4 December 2013. [✂]

(a) in 2012, Airwave Solutions made a proposal equivalent to a total discount of £231 million or 5.8% of revenue over the remaining eight years of the contract in return for an extension to 2022;

(b) the government sought to obtain a discount by exercising its right to price benchmarking in 2013, but the outcome of the process was disputed by Airwave Solutions, relying on the weaknesses in the way the relevant benchmarking clauses of the PFI Agreement were drafted (see paragraphs 4.246 to 4.264 in Section 4 of this decision report and Appendix F (Benchmarking), paragraphs 27 to 37); and

(c) a further offer Airwave Solutions made in 2014 also amounted to a small discount (of around £9 million).[236]

47 By 2014, the level of GDCL's debt relating to Airwave Solutions had increased to £2.4 billion, of which £2 billion was external debt (in the Home Office's assessment). Unable to refinance the debt conventionally, Macquarie sought a scheme of arrangement that consolidated the debt into a single £2 billion external loan with a debt maturity to March 2017, with an option to extend by two years, if certain conditions were met.[237]

48 The further indebtedness heightened the Home Office's concerns about Airwave Solutions' financial stability and in March 2014 it commissioned a risk assessment of the company. This found that the Home Office was exposed to structural financial risks that it could not effectively mitigate in a crisis event such as GDCL's insolvency. It was assessed that this created a service sustainment risk for the Home Office – amplified by the lack of any genuine 'rescue package' or exit options.[238]

49 The government's procurement of ESN, to replace the Airwave Network with a network using LTE technology (4G) over commercial mobile networks, in 2014/15[239] was its response to the issues and concerns described above. 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

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[236] Home Office email, 5 November 2012. [✂] Home Office internal email. [✂]. Home Office internal document [✂]
[237] Home Office document. [✂]
[238] Report commissioned by the Home Office, April 2014. [✂]
[239] Services - 133654-2014 - TED Tenders Electronic Daily (europa.eu)

which, after consultation with the Home Office,[240] 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).[241]

Part 3: The role and implications of the change of control negotiations in 2016

50 In this part of this Appendix, which supports our analysis in sections 2, 3 and 4 of our report in particular, we consider:

(a) the context in which, in early 2016, the Home Office and Motorola agreed a number of contractual provisions relating to the alignment and potential future extensions of the key contracts under which Airwave Solutions operates; and

(b) the scope for future negotiations and extent to which such negotiations took place.

51 As well as sections 2, 3 and 4 of this report, this Appendix should also be read alongside:

(a) Appendix C, which sets out the various contracts between Airwave Solutions and its customers, how they have evolved over time and our interpretation of certain clauses; and

(b) Appendix E, which sets out key facts relating to the benchmarking provisions in the PFI Agreement and their disputed application.

Motorola's submissions

52 Motorola has made a number of representations in relation to the outcome and consequences of the negotiations between itself and the Home Office that took place in 2016. They include those it made in response to our PDR

[240] 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. [✂]
[241] NAO (2016), Upgrading emergency service communications: the Emergency Services Network (HC 627), [✂]

which are summarised in section 4 of this decision. They also include submissions it made prior to the PDR that:

the terms of any extension sought by the Home Office were already agreed in 2016, following extensive negotiations and as part of a whole suite of arrangements entered into between the Home Office and Motorola (as purchaser of the Airwave network). **The key element of that deal, for these purposes, is the unilateral contractual right for the Home Office to extend the Airwave service at agreed pricing for as long as it is needed while the Home Office transitions its 300,000 users to ESN** which, in turn, requires Airwave to invest over £300 million in capital expenditure to ensure the continuity of service of the Airwave Network, without any expectation of additional returns. There is, therefore, nothing that "needs" to be agreed by the end of 2021[242]

[2016] is the only point at which the parties had the option to walk away during the period of Motorola's ownership of Airwave. Motorola's walk-away option was not to proceed with the Airwave acquisition (although this was hardly attractive since Motorola would have had to pay a [✂] of £[✂] million). The Home Office's walk-away option was to refuse consent to the acquisition, causing the acquisition to fail (but the Airwave service would continue under Macquarie ownership). As a result, the Home Office was able to 'bid down' and lock in the terms on which Motorola (instead of Macquarie) would be required to supply Airwave, in return for the Home Office consenting to the transaction.[243]

The Home Office secured the following concessions in these negotiations:[244]

a perpetual obligation for Airwave Solutions to continue to deliver the service at Airwave Solutions' risk until the final ESN Transition Group (whether delayed or on time) has transitioned to ESN and National Shut Down occurs;

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[242] Motorola's response the CMA's Final Report and Decision on a Market Investigation Reference, 15 November 2021. [✂]
[243] Motorola's response to the Issues Statement, 10 January 2022. [✂]
[244] Motorola's response to the Issues Statement, 10 January 2022, paragraph 22.

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;

an essential and bespoke ‘interoperability’ 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 Airwave to ESN;

settlement of ongoing litigation between the Home Office and Airwave relating to Benchmarking and Variation of Price equating to payments to the Home Office of £[✂] million over three years;

the Deed of Recovery 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 Airwave Network services;

common end date for all core contracts – Police, Fire, Health - removing the ‘ragged edge’ expiry dates, which would have been problematic as regards the Home Office’s aspiration to complete ESN Transition across all the emergency services by December 2019;

access to [✂] of Airwave Solutions’ sites located in rural areas in order to enable the Home Office to execute on its ESN extended area coverage requirements;

flexibility for Police Forces to extend their existing Menu Services provision at current pricing for a period of their choice through to National Shut Down at the latest; and

withdrawal of Airwave Solutions’ procurement challenge that it had brought against the Home Office following its exclusion from the ESMCP ‘Lot 3’ competition. This avoided the prospect that the Home Office could be forced to re-procure that element of the ESMCP, which likely would have caused significant delay to its proposed timetable.

The Home Office did not seek to secure any form of price reduction at this point, having secured the overall deal it wanted.

The only 'negotiations' that have been taking place since 2016 are unilateral demands by the Home Office for ex gratia discounts.[245] The 2018 negotiations started with the Home Office approaching Motorola in April 2018 and the Home Office was in the driving seat throughout these negotiations, with the Home Office 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 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.[246]

Focus of this part of the appendix

53 In this part of this Appendix, we seek to consider relevant matters by focusing on three key questions:

(a) the commercial context within which the Heads of Terms' (HoTs) provisions relating to extensions and their pricing were negotiated and interpreted at the time and subsequently;

(b) the economic realities of the negotiating parties' respective bargaining positions and in particular the outside options open to them. ;and.

(c) 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.

[245] Motorola's response the CMA's Final Report and Decision on a Market Investigation Reference, 15 November 2021. [✂]
[246] Motorola's response the CMA's Final Report and Decision on a Market Investigation Reference, 15 November 2021. [✂]

Commercial context to the negotiations

Introduction

54 As set out in Appendix C, we have analysed the HoTs and, based on this review, it appears to us that the Home Office and Motorola agreed in February 2016 a set of terms that, subject to any further negotiation and agreement, gave the Home Office an option unilaterally to extend the provision of the Airwave Network at a set price.

55 In the following paragraphs, we examine the commercial context in which the HoTs were negotiated and the extent to which they can be said to have fixed prices in perpetuity (as submitted by Motorola prior to and in response to the PDR) as far as the parties' commercial expectations were concerned, given the broader market context and the views and actions of the Home Office and Motorola in subsequent months and years.

Purpose of the negotiations and process

56 The Home Office's negotiation team set its high-level objectives for the upcoming negotiation on 24 November 2015, as follows:

[✂]

1. [✂].
2. [✂].
3. [✂].
4. [✂].
5. [✂].
6. [✂].
7. [✂].
8. [✂].

[✂]

- [✂].
- [✂]
- [✂].

[✂]

- [✂].

[✂]

- [✂].[247]

57 An assessment of the upcoming negotiation,[248] prepared by Motorola's then [✂] and lead negotiator [✂] for its [✂] in December 2015, identified that Motorola had the following commercial objectives for the upcoming negotiations:[249]

(a) [✂];

(b) [✂];

(c) [✂]; and

(d) [✂].

58 The negotiations were split into 5 separate workstreams and were carried on in a series of commercial negotiation meetings that took place from early January to 9 February 2016:[250]

(a) [✂];

(b) [✂];

(c) [✂];

(d) [✂];and

(e) [✂].

59 Our review of internal documents provided by Motorola and the Home Office indicates that the focus of the Home Office was on minimising the duration of any extension through the negotiations, as illustrated by the following comments and points:

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[247] Home Office internal email, 24 November 2015. [✂]
[248] Motorola presentation slides, December 2015 [✂]
[249] Motorola told us that 'a more accurate representation of the chief objectives of the then upcoming negotiations is contained in the 7 December 2015 "Kick Off Agenda". We do not consider that it is appropriate to favour the agenda of the meeting with the Home Office over a confidential email from Motorola's lead negotiator to its [✂] as a source of evidence on Motorola's confidential commercial objectives.
[250] Motorola internal email, 2 October 2016. [✂]

(a) [✂];[251]

(b) [✂]';[252]

(c) [✂][253] [✂];[254]and

(d) [✂][255]

60 We have not seen any document supporting the idea that the Home Office sought to secure 'a perpetual obligation for Airwave Solutions to continue to deliver the service at Airwave Solutions' risk'. Instead, all discussions relating to (limited) extensions appear to have focused on the revenues and costs that would result from the extent to which all contracts would be aligned and to what date, and the price to be paid for any regional extensions beyond that date that turned out to be necessary.

61 That the Home Office was focused on the short-term, i.e. largely the period up to 2020, is consistent with its concern that [✂]:

(a) [✂][256];and

(b) [✂][257]

62 Following the commercial negotiations, a number of agreements were entered into between Motorola and the Home Office on 17 February 2016 (other key contract holders having delegated to the Home Office responsibility for negotiating with Motorola), including HoTs, a Deed of Recovery (DoR) and a dispute settlement agreement covering various disputes between Airwave Solutions Limited and the Home Office. A detailed description of these agreements is in Appendix C and the Airwave Contracts Working Paper we provided to Motorola and the Home Office.[258]

63 The HoTs broadly covered the following:

(a) the end date for all the Airwave Blue Light Contracts and shut down of Airwave was aligned to the expected start date of ESN (at that time 31

[251] Home Office internal email, 27 January 2016. [✂]
[252] Email from the Home Office to Motorola, 14 January 2016. [✂]
[253] Email from the Home Office to Motorola, 9 February 2016. [✂]
[254] Home Office internal email, 5 February 2016: [✂]
[255] [✂]
[256] Home Office internal email, 14 January 2016 [✂]
[257] Home Office internal email, 28 May 2015 [✂]
[258] This working paper was not published as explained in: Overview of unpublished working papers, 13 May 2022.

December 2019) and provision was made for how this date could be amended and delayed (see Appendix C);

(b) Motorola and the Home Office agreed the pricing that could apply until that shut down date as the price specified in the Blue Light Contracts subject to certain amendments agreed in the HoTs, and reflecting any further amendments from any subsequent negotiations;

(c) it was agreed that Motorola and the Home Office would enter into settlement agreements in respect of the police and ambulance Blue Light Contracts which determined certain benchmarking disputes by granting the Home Office specified cash sums over a period of time and in return waived the benchmarking rights under each of these contracts;and

(d) an agreement was reached which required Motorola to build an interworking solution between the Airwave Network and ESN (referred to as SiteLink during the negotiations and Wave 7000 subsequently) for any period of transition at an agreed sum.[259]

Interpretative statements made by the negotiating parties

Explanation of the mechanisms for extending the contracts during the negotiations

64 The treatment of delays and extensions to the Airwave Network service in the 2016 contractual documents was agreed late in the negotiations, in a meeting held on 9 February 2016.

65 The evidence we have seen, described below, indicates that both the Home Office and Motorola recorded what mechanisms for extending the Airwave Network contracts had been agreed via the DoR and HoTs, as follows:

(a) [✂]; [✂]

(b) [✂].[260]

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[259] Although the contractual agreement for delivery was with Airwave Solutions, this was commercially agreed through the HoTs (to which the commercial proposal, including pricing, is appended).
[260] [✂]

66 The mechanics of the DoR were described as follows:[261]

(a) The DoR could only be triggered in two ways:

(I) [✄][262]; or

(II) [✄].

(b) The discounts would be as follows under each scenario:

(I) [✄]; and'

(II) [✄].

67 Commenting on the HoTs, Motorola described that agreement as follows:[263]

[✄]

68 The Home Office described the same agreement on extensions in the HoTs as follows:

[✄]

69 The above descriptions suggest that, at the time, the parties described the HoTs as providing for the possibility of limited and specific extensions of the provision of the Airwave Network service, [✄].[264] Extended delays to ESN, [✄], were provided for by [✄], and under such circumstances, it was envisaged that a significant discount to Airwave revenues would apply.

Home Office's statements when later summarising the deal

70 The Home Office's interpretation of the HoTs, as relayed in internal documents, appears to confirm that any extension envisaged in the HoTs related to short-term [✄], with no mention being made of broader/longer extension of the operation of the whole network.[265] In other words, that the Home Office was not contemplating that it was negotiating the extension of the operation of the Airwave Network generally for however long that might

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[261] Based on two similar descriptions by Motorola and the Home Office staff. Motorola internal email, 2 October 2016; [✄] Home Office internal email, 19 February 2016. [✄]
[262] [✄]
[263] Motorola internal email, 2 October 2016 [✄]
[264] We have reviewed emails sent by the lead negotiators of the Home Office and Motorola, including the near verbatim records of the negotiation meetings created by Motorola's lead negotiator.
[265] Home Office presentation slides May 2017; [✄]: Home Office presentation, March 2017. [✄] Home Office presentation, May 2017. [✄]

be required (and it would follow that such extension would be the subject of further negotiation).

Motorola's statements made in the course of 2017

71 In subsequent months, Motorola executives further commented on these agreements as follows:

(a) Referring to delays in the negotiations leading up to the £[✂]m discount agreed in February 2017, [✂] made the following observation:

> [✂].[266]

(b) In June 2017, [✂] summarised the position as follows, referring to the 2015 business case for the acquisition in the context of the 2019/2020 long range plan:

> [✂]

Motorola's statements in March 2018

72 In March 2018 [✂] said of the provisions:

> [✂]
>
> A. [✂].
>
> B. [✂].
>
> C. [✂].
>
> [✂].

73 Responding to a further question by [✂]

74 [✂] added that beyond the £[✂]m discount given for 2020, the contractual right to discounts would be [✂].[267]

[266] Motorola internal email, 8 February 2017. [✂]
[267] Motorola internal email, 1 March 2018. [✂]

Subsequent negotiations

75 As a starting point we note that [✂].

76 There is documentary evidence that shows that both the Home Office and Motorola (i) expected to enter into negotiations once it became clear that ESN transition would be subject to more than minimal delays and (ii) had an incentive to negotiate both in 2017/18 and 2020/21. At no point was the negotiation solely at the Home Office's request and we have seen no evidence that Motorola was reluctant to negotiate. The evidence is consistent with Motorola expecting to have to do so, and it saw commercial advantages in doing so on both occasions:

(a) The first discussions of the need to negotiate a significant extension took place in late 2017, with Motorola seeking to [✂][268]) [✂] (and as to which see further below in part 4 of this Appendix). At this point, Motorola's concern was in [✂] and to [✂], as illustrated by the comment made by [✂].[269] The matter appears to have been resolved through an interim payment for ESN, rather than a broader discussion.

(b) It also appears that it was Motorola, rather than the Home Office that sought to re-start negotiations in February 2018 and that in a pre-negotiation discussion that took place in early March 2018, Motorola was keen to negotiate [✂] (with the Home Office staff expressing doubt as to [✂]).[270]

(c) In April 2018, the Home Office asked Motorola to model a [✂].[271] Later in the negotiations (on 6 June 2018), Motorola proposed a [✂]. In both cases, Motorola's starting point was the PFI Agreement prices, to which it applied a series of discounts. As far as we have seen, no reference was made in correspondence with the Home Office to the outcome of the 2016 change of control negotiations as being a relevant consideration in terms of pricing; there was no suggestion that the price of extension had been set in perpetuity by the change of control negotiations; and there was no suggestion that the Home Office's request for a quote amounted to a 'unilateral demand for ex gratia discounts'. The inclusion of a [✂]% discount and the conversion of the

[268] External email – Home Office, Motorola & Oaklin, 20 November 2017. [✂]
[269] Motorola internal email, 1 September 2017. [✂] Additional relevant Motorola evidence: Motorola internal email, 18 October 2017, [✂] Motorola internal email, 21 December 2017. [✂] (Home Office internal email, 8 November 2017, [✂], Home Office internal email, 23 November 2017 [✂]).
[270] [✂] Email from the Home Office to Motorola, 15 February 2018 [✂]
[271] Motorola internal email, 5 April 2018 [✂]

benchmarking settlement into an additional discount appears to have been put forward by Motorola later on in the negotiations, as a trade-off for [✂]. These interactions do not appear to us to be consistent with Motorola's submissions summarised in section 4 of this decision and above that 'The only "negotiations" that have been taking place since 2016 are unilateral demands by the Home Office for ex gratia discounts'.

(d) In its 31 December 2019 impairment review, Motorola noted that it is '[✂]'.[272]

(e) In August 2020, in the context of a broader strategy to [✂], Motorola was preparing for extension discussions around two possible extension durations: [✂].[273]

(f) In 2021, the Home Office's starting point in seeking to negotiate was not the previous price. Instead it sought to move to [✂]. In June, [✂] commented in a text message to a colleague: '[✂].'[274]

(g) On 25 June 2021, Motorola made the case to the Home Office that the Airwave core charge to be paid should increase by £[✂]m to fund its proposed capex investment (including "a [✂]% margin" on costs).[275]

77 In other words, the evidence indicates that both the Home Office and Motorola expected the price of any extension of the operation of the Airwave Network to be subject to negotiation once it was clear that ESN would be delayed beyond the dates previously contemplated.

The bargaining positions of Motorola and the Home Office

The Home Office

Contracts

78 We start by considering the contractual sources of leverage that the Home Office had in the 2016 negotiations.

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[272] Motorola / Guardian / Airwave UK Group, Local Statutory Entity Investment Valuation and Impairment Review, 31 December 2019.
[273] Motorola presentation, 25 August 2020. [✂]
[274] Motorola internal email, 14 June 2021. [✂]
[275] Motorola presentation slides, 25 June 2021. [✂].

79 Although the provisions of the PFI Agreement sought to enable the Home Office to switch away from Airwave Solutions upon contract termination by transferring the services to an alternative service provider, as explained in section 4 of this decision, it appears to us that this was not an option open to it in practice.

80 The Home Office also recognised that it only had a limited ability to terminate the Airwave Network contracts in practice.[276]

81 However, Motorola offered to the Home Office to make the completion of its acquisition of Airwave Solutions subject to Home Office consent through a separate agreement (a Deed of Undertakings). It did so as a compromise for [✂].[277] The Deed of Undertakings was signed on 7 December 2015, thus giving the Home Office the right to block the completion of the acquisition of Airwave Solutions by Motorola (see Appendix C). We note that, given the above, it would have been open to Motorola to choose a different approach in its handling of these issues (and the settlement of disputes with the Home Office)[278] and to proceed with the acquisition without seeking consent from the Home Office, although there would have been commercial risks associated with such a course of action.[279]

Options open to the Home Office

82 Although HKT Limited (Hong Kong Telecom) had bid for Airwave Solutions, the evidence we have seen indicates that by late November 2015, this alternative bid had been dismissed.[280] None of the documents provided by Motorola mentions the risk of the business being purchased by Hong Kong Telecom after that date, which indicates that by the time the negotiations started, this was not perceived as a risk by Motorola or as another option by the Home Office. From the Home Office's perspective, there were two potential outcomes from the negotiations to consider:

(a) the monopoly provision of Airwave Solutions' services under Macquarie ownership; or

(b) the monopoly provision of Airwave Solutions' services under Motorola's ownership.

[276] Home Office internal email, 13 November 2015 [✂]
[277] Motorola internal email, 25 October 2015, [✂], letter from Motorola to the Home Office, 26 October 2015. [✂]
[278] Motorola internal email, 22 July 2015, [✂], Motorola internal email, 4 November 2015. [✂]
[279] Motorola Hearing with the CMA on 10 February 2022. [✂]
[280] Motorola internal email, 27 November 2015. [✂]

83 Under both scenarios, going forward, it would have no choice but to continue to rely on Airwave Solutions for the provision of a piece of critical national infrastructure until ESN was fully operational.

Attractiveness of the two options

Macquarie ownership

84 The Home Office appears to have had significant concerns about continued Macquarie ownership linked to financial and operational risks and concerns about lack of cooperation in relation to the development of an interworking solution to enable the transition from the Airwave Network to ESN. This was against the backdrop of an acrimonious relationship that had spanned several years.

85 The Home Office's concerns with Airwave Solutions' financial position were, as described more fully in part 2 above, linked to the high level of indebtedness[281] of the intermediate holding company, GDCL, and the ability of Airwave Solutions continuing to operate as a going concern, especially in the period after the ESN transition was set to begin:

(a) In March 2014, [✂].[282] The Home Office continued to be concerned with the Airwave supply structure and Airwave Solutions' parent group structure [✂].[283] These concerns were highlighted by news reports such as Infrastructure News's article of 29 May 2015 which stated that Macquarie owned Airwave was 'over-leveraged and its future appeared bleak',[284] with lenders believing they would have to 'write-off most of their acquisition debts to Airwave's parent'. In June 2015, the Home Office requested an update from Airwave Solutions to confirm its financial health and the level of risk it faced.[285] Further, the Home Office was concerned it would be forced to [✂] and that [✂].[286]

(b) On 7 December 2015, in its first discussion with the Home Office following the signing of the Sale and Purchase Agreement relating to the acquisition of Airwave Solutions, Motorola advised the Home Office that under continued Macquarie ownership, there was a risk that the Airwave Network equipment would start to fail as the entire system was

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[281] Home Office internal email, 20 January 2016 [✂]
[282] Home Office document: Airwave & ASL Risk Assessment [✂]
[283] Home Office document: ESCMP Position Paper – ASL Financial Risk. [✂]
[284] Home Office internal email, 7 May 2015. [✂]
[285] Home Office internal email, 26 June 2015. [✂]
[286] Home Office internal email, 28 May 2015. [✂]

'end of life' and that 'Airwave Solutions would not have the funds to invest in it':

[✄].[287]

(c) There is evidence that this particular issue led to significant concern for the Home Office team.[288]

86 Macquarie had been unwilling to allow flexibility in its arrangements to accommodate the ESN transition and potential interworking required, [✄].[289]

87 When asked by the Home Office to put forward interoperability solutions, Airwave Solutions had [✄][290] [✄].[291]

88 The Home Office believed Airwave Solutions would not [✄].[292]

89 Finally, the relationship between the Home Office and Macquarie had been difficult for a number of years, starting in 2010 when Airwave Solutions [✄].[293]

90 In 2014, when completing an Airwave Solutions risk assessment, [✄].[294] It was also highlighted, in the 2014 risk assessment, that Airwave Solutions had [✄].[295]

91 The difficulties in the relationship between Airwave Solutions and the Home Office continued, culminating in a number of ongoing disputes and eventually two sets of court proceedings (including Airwave Solutions' challenge of the ESN Lot 3 procurement), potentially imposing significant expenditure on both parties as they had stopped making progress in their negotiations. By 2016, the Home Office was describing their relationship with Macquarie as [✄][296] with the Home Office commenting that [✄].[297]

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[287] Home Office meeting minutes, 7 December 2015. [✄]
[288] Home Office internal email, 23 December 2015. [✄]
[289] Home Office memo, 13 November 2015. [✄]
[290] Home Office internal email, 6 February 2015. [✄]
[291] Home Office document 30 January 2016. [✄]
[292] Home Office document 30 January 2016. [✄]
[293] Home Office document July 2018. [✄]
[294] Home Office document: Airwave & ASL Risk Assessment. [✄]
[295] Home Office document: Airwave & ASL Risk Assessment. [✄]
[296] Home Office document 30 January 2016. [✄]
[297] Home Office internal email, 29 January 2016. [✄]

Motorola ownership

92 In contrast, the Home Office saw the potential acquisition of Airwave Solutions by Motorola as presenting significantly more opportunities than risks, [✂].[298]

93 [✂].[299]

94 The following statement illustrates the positive view that the Home Office had of Motorola's acquisition of Airwave Solutions ahead of the negotiations:

> [✂] [300] (Home Office's lead negotiator, [✂], summing up the situation as of 21 December 2015)

95 Statements from the Home Office's lead negotiator indicate that provided it could [✂].[301] Other comments indicate that [✂].[302]

96 We also note that Motorola was well aware that the Home Office was keen to achieve a deal from the outset of the negotiations.[303]

Synthesis of the Home Office's support for the change of ownership

97 Following the negotiations, the Home Office summarised the reasons for supporting [✂]: [304]

- [✂]

98 Proceeding with Motorola's ownership of Airwave Solutions was also estimated to lead to significant savings, not only to the Home Office, but across all Airwave users. Across the various disputes and potential costs to be incurred during the transition period, where the Authority would effectively be paying for two systems at the same time, the Authority expected to save £[✂] million if they provided approval to Motorola instead of continuing with

298 Home Office memo, 4 January 2016. [✂]
299 Home Office document, 8 February 2016. [✂]
300 Home Office emails, 21 December 2015. [✂]
301 Home Office internal email, 15 November 2015, [✂], Home Office memo, 7 December 2015. [✂]. This point is further illustrated by this comment made on 18 January 2016 (i.e. in the middle of the negotiations) by the Home Office lead negotiator: '[✂]
302 Home Office internal email, 27 January 2016. [✂]
303 Motorola internal email, 13 November 2015, [✂] Motorola internal email, 16 November 2016. [✂]
304 Home Office presentation slides, 2 February 2016. [✂]

ownership of Airwave Solutions by Macquarie.[305] We note, though, that these estimates were provided by Motorola to the Home Office.[306]

Motorola

99 Motorola's option of walking away from the negotiations would have had the following consequences:

(a) the risk of operational and reputational damage identified by Motorola in its 7 December 2015 meeting with the Home Office (see paragraph 85(b));

(b) the loss of the long-term financial upsides of owning Airwave Solutions (although Motorola would only secure these upsides if it could emerge from the negotiations having only made concessions that affected its short-term profits – in other words, therefore, this was a conditional cost of walking away);and

(c) the £[✂] if the transaction did not complete by the end of March 2016, with a part payment of £[✂]m if it did not complete by 29 February 2016 (in the context of an acquisition cost of £[✂]m).[307]

100 We note however that:

(a) Motorola's internal documents did not envisage a situation in which a deal could not be achieved – ie there is no suggestion in any document that it expected the Home Office to veto the deal altogether.[308] A number of comments also indicate that Motorola was aware that the Home Office viewed the transaction very favourably. Its main concern was about the time it would take to negotiate, which is reflected in the pressure it put on the Home Office on a number of occasions to move forward at pace; and

(b) there is no indication that Motorola had any concern that if it failed to reach an agreement, Airwave Solutions would be purchased by Hong Kong Telecom or another buyer.

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305 Home Office document 30 January 2016. [✂]
306 Email from Motorola to the Home Office, 30 January 2016, [✂]
307 Home Office document (briefing note), 4 January 2016. [✂]
308 Motorola presentation slides, December 2015 [✂]

Outcome of the negotiations

Perceptions of the negotiating parties

Motorola

101 Motorola's business case (prepared for internal purposes and for its Board) supporting the acquisition of Airwave Solutions assumed a [✂]% chance that ESN would not be delivered before the end of 2020.[309] It therefore entered the negotiations with an expectation that there would be some delay to ESN and that the operation of the Airwave Network was likely to be extended beyond the National Shutdown Target Date of 31 December 2019.[310] Against this background, we note that Motorola told the Home Office that the acquisition was financially unattractive to Motorola on a standalone basis, supported by financial projections to December 2019 showing that the acquisition would return an IRR of [✂]% to Motorola:[311]

[✂][312]

102 Motorola's updated[✂], business case to its Board following the change of control negotiations included assumptions that 'Airwave contracts run at [✂] rate through to June 30th 2021 due to ESMCP delays", then[313] "At June 30th 2021 Airwave charges [✂] to $[✂]m/year for Police/Fire/Ambulance through June 30th 2025. It also included the assumption that "by June 30th 2025 spectrum will have been dedicated to ESN and a viable 'carrier hybrid' voice solution may be possible (3GPP standards etc). Airwave may continue beyond this point depending on the need for its infrastructure, operations and sites.'[314]

103 We note that the above description in Motorola's February 2016 Board update assumed that any extension at current price would not exceed [✂], ie it did not assume that prices would be fixed in perpetuity, but instead envisaged that negotiations would take place, and Airwave charges would [✂], if ESN were delayed by more than [✂].

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309 Motorola document, 17 November 2015. [✂]
310 [✂]
311 Email from Motorola to the Home Office, 1 February 2016; [✂]
312 Email from Motorola to Home Office, 27 January 2016. [✂]
313 And even though it had estimated an [✂]% probability that ESN transition would be complete by the end of 2022.
314 Airwave Transaction, Board of Directors, February 2016. [✂]

104 Motorola calculated that the outcome of the negotiations resulted in a [✂] compared to its business case. The potential [✂]. It also highlighted [✂].

The Home Office

105 The Ministerial briefing prepared in February 2016[315] indicates that the Home Office saw a number of financial and strategic benefits in the deal, set out in three separate appendices:

(a) In relation to the settlement agreements, [✂].

(b) In terms of giving consent to the transaction, three areas of concern were highlighted:

(I) [✂].

(II) [✂];and

(III) [✂].

(c) [✂][316]; [✂]; and [✂].[317]

106 The evidence therefore shows that Motorola anticipated and expected to benefit from some extension of the operation of the Airwave Network generally for a period.[318] It is also consistent with the Home Office not contemplating or seeking extensions of the operation of the network generally,[319] other than in the context of the negotiations of the Deed of Recovery (ie a catastrophic failure of the ESMCP project caused by Motorola). The Home Office chose to deal with Motorola because continued ownership of Airwave Solutions by Macquarie raised a significantly increasing level of risk as the date of the shutdown of the network approached, and because of the short-term upsides of Motorola's ownership.

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[315] Home Office document (briefing note), 4 January 2016. [✂]
[316] [✂].
[317] [✂]
[318] Although not the multi-year extensions that transpired.
[319] As opposed to short-term regional extensions of its operation.

CMA's further observations on Motorola's characterisation of the 'deal' struck

107 Motorola has made a number of submissions about the 'deal' struck with the Home Office in 2016. We make the following observations on them, reflecting our views.

Table E-1: CMA's observations on Motorola's characterisation of the 'deal' struck

● **Concessions that Motorola states the Home Office secured in the 2016 negotiations (see paragraph 52)**	● **CMA observations**
● A perpetual obligation for Airwave to continue to deliver the service at Airwave's risk until the final ESN Transition Group (whether delayed or on time) has transitioned to ESN and National Shut Down occurs.	● For the reasons set out below and in sections 3 and 4 of this report, we do not consider this is correctly characterised as a 'concession' 'secured' by the Home Office from Motorola. ● We note that, according to Motorola, its ability to discontinue the Airwave Network was already constrained [✂]. ● We also note that the alignment of the different contracts to the National Shutdown Target of 31 December 2019 increased charges by about £[✂]m according to the Home Office and the Home Office described this as [✂].[320] ● Moreover, as we describe earlier in this part of this Appendix, and in sections 3 and 4 of this report, it appears to us that, while Motorola may have factored into its thinking the financial upsides of longer extensions, the Home Office's focus was on minimising the scope, duration and cost of extensions. The evidence is consistent with extensions of the period of operation of the Airwave Network generally not being contemplated, negotiated and agreed in perpetuity in 2016 (as far as either party was concerned).

[320] Home Office internal email, 6 June 2016. [✂]

● A unilateral option to extend Airwave 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 Service 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.	● Again, as we describe earlier and in sections 3 and 4, the evidence suggests to us that the Home Office valued the increased flexibility, and in particular the ability to extend the contracts in monthly increments in certain regions, with extension charges being set on a monthly basis, rather than on an annual basis or even through longer commitments in the case of menu services. ● We have seen no evidence that the Home Office envisaged at the time of the negotiations that there would be any elongated Transition scenarios nationally or that it was negotiating or agreeing the price of these, in perpetuity, in 2016. The HoTs appear to seek to address extensions spanning months, rather than years, with the DoR envisaging longer extensions in the case of catastrophic failure caused by Motorola.
● An essential and bespoke ‘interoperability’ 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 Airwave to ESN.	● This does not appear to us to be a concession by Motorola for the following reasons. ● It appears to us from the evidence that Motorola’s price was set at [✂][321] – having originally estimated [✂], [322] the final offer was for [✂]. ● This was [✂].[323] ● There appears to be evidence that [✂].[324] The equipment upgrade was estimated by the Home Office to account for [✂]% of the costs. ● Evidence from the Home Office suggests it was unconvinced that [✂].[325]

321 [✂] Motorola document, 27 January 2016 [✂] (emphasis added by the CMA).
322 Motorola document 7 January 2016 [✂]
323 Motorola internal email, 17 February 2016 [✂]
324 Motorola internal email, 22 October, 2015; [✂] Motorola internal email 12 December 2015; [✂] Motorola internal email, 15 January 2016. [✂]
325 Home Office internal email, 5 February 2016; [✂] Home Office internal email, 8 February 2016; [✂] Home Office internal email, 8 February 2016. [✂]

	● Motorola itself acknowledged later that there was little price negotiation on this, as it was critical to the Home Office.[326]
● Settlement of ongoing litigation between the Home Office and Airwave relating to Benchmarking and Variation of Price equating to payments to the Home Office of £[✂]m over three years;	● The evidence we have seen suggests the amount referred to by Motorola in its 15 November submission to us is incorrect – it includes the Variation of Price (VOP) settlement of £[✂]m that was agreed with the Cabinet Office in 2014 – but there was no on-going dispute with Airwave Solutions in relation to this. The amount and timing of the payments under this settlement were not changed by this negotiation. ● The overall amount negotiated in January 2016 was £[✂]m, (or about £[✂]m annually).
● The Deed of Recovery providing financial remedies protecting the government from a delay to ESN caused solely by Motorola's ESN Lot 2 delivery and a separate mechanism for extending the Airwave Service in this situation;	● Our assessment of the evidence is that the Home Office reluctantly moved away from its more broadly drafted version that sought to address general delays by Motorola. It appears to us that, by doing so, it significantly reduced the value of the DoR with regard to the terms agreed (including as to price) when negotiating future extensions of the Airwave Service.
● Common end date for all core contracts – Police, Fire, Health - removing the "ragged edge" expiry dates, which would have been problematic as regards the Home Office's aspiration to complete ESN Transition across all the emergency services by December 2019;	● Our assessment is that this was as much of benefit to Motorola as it was to the Home Office, as the 'ragged edge' would have resulted in decreased core revenue without an equivalent decrease in costs for the supplier and continuing to be subject to same SLAs from the remaining customers.
● Access to [✂] of Airwave's sites located in rural areas in order to enable the Home Office to execute on its ESN extended area coverage requirements;	● Motorola told us that 'attractive sites' were worth £[✂] to £[✂] which would mean that these 80 sites would have been worth up to £[✂]m in total to Motorola. ● We note that we have not seen any consideration in Motorola's contemporaneous documents of the value of

[326] Motorola internal email, 8 June 2017 [✂]

	these sites, which suggest that it did not perceive them as being of significant value.
● Flexibility for Police Forces to extend their existing Menu Services provision at current pricing for a period of its choice through to National Shut Down at the latest	● This appears to us to be of equal benefit to Motorola, as they derive revenue and profits from this activity.
● Withdrawal of Airwave's procurement challenge that it had brought against the Home Office following its exclusion from the ESMCP "Lot 3" competition. This avoided the prospect that the Home Office could be forced to re-procure that element of the ESMCP, which likely would have, caused significant delay to its proposed timetable.	● Evidence indicates that, by the time of the start of the negotiations, Airwave Solutions had dropped its injunction to block ESN and was only seeking damages, not the re-procurement of ESN (which had been dropped following the signing of the Sales and Purchase Agreement in early December 2015).[327] ● It was also of benefit to Motorola for all disputes with Airwave Solutions' key customer to be settled before it completed the acquisition, as evidenced by its internal documents.
● The Home Office did not seek to secure any form of price reduction at this point, having secured the overall deal it wanted	● We note that the records taken by Motorola's lead negotiator and the Home Office's own internal records show that the Home Office sought a discount on extensions as part of the extension negotiations and Motorola had expressed the willingness to offer a [✂] to [✂]% discount in return for a common end date at the beginning of the negotiations.[328] ● It appears from the evidence we have seen that this discount offer was withdrawn as the Home Office sought a co-terminous date that was sooner than the one originally envisaged by Motorola.

[327] Motorola internal email, 7 December 2015 re. Telegraph article (Title: Airwave drops High Court block on new police emergency network) [✂]
[328] Motorola document, 7 January 2016. [✂]

Part 4: The initiation of the 2018 negotiations

108 This part of this Appendix sets out factual and evidential material relating to the initiation of the negotiations between Motorola and the Home Office in 2018. Its contents support our analysis in paragraphs 4.162 to 4.166 in section 4 of our decision report in particular.

109 The discussions that culminated in the 2018 negotiations began when Motorola informed the Home Office in January 2017 that Vodafone was withdrawing its Time Division Multiplex (TDM) service – an important component of the Airwave Network – in March 2019 because it was becoming obsolete.[329] The following month, the Public Accounts Committee (PAC), having been informed of this development and its consequences, namely that without TDM, or a service that would replicate its functions, the existing Airwave Network could not operate, communicated its concerns to the Home Office. The PAC was concerned that, given the then delays in the delivery of ESN, this could lead to a gap of several months during which the emergency services would have no critical communications network at all. It pressed the Home Office to come back later in the year to update it on progress to implement a solution.[330]

110 In early July 2017, Motorola informed the Home Office that to avoid a gap in service associated with the discontinuation of Vodafone's TDM product, it needed to start the renovation of the underlying TDM network. It therefore required the Home Office to bring forward the decision to extend the operation of the Airwave Network, and for what period, to no later than 30 October 2017 (from 31 December 2018).[331]

111 In September 2017, ESN having continued to suffer delays despite a re-planning exercise involving Motorola and EE,[332] Motorola expressed to the Home Office, in the latter's words, a need for '[✂]'.[333]

112 In that context,[334] [✂] Motorola UK [✂] commented on his ability to strike a deal with the Home Office on ESN because of the leverage ownership of

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[329] In an email, Motorola set out three options, stating that if notice of an extension to 31 December 2020 was given by 31 December 2017, Motorola would be prepared to make the necessary investment to address the issue (Email from Motorola to the Home Office, 16 January 2017). [✂]
[330] Internal Home Office briefing, 13 November 2017. [✂]
[331] The date by which, according to the HoTs, any notice of extensions would need to be served (Letter from Motorola to the Home Office, 6 July 2017). [✂]
[332] Internal Home Office presentation, 8 August 2017. [✂] Internal Motorola emails, 1 September 2017. [✂]
[333] Internal Home Office presentation, 28 September 2017. [✂]
[334] In an internal email relating to measures to be taken to improve margins by obtaining milestone upfront payments for Lot 2 (Internal Motorola emails, 1 September 2017). [✂]

Airwave Solutions gave Motorola. He did so in the following terms, linking Motorola's roles in relation to both networks: [✂]. Thereafter, negotiations were initiated by Motorola, focused on addressing its financial position in relation to ESN and obtaining an extension to the operation of the Airwave Network.[335] Following a first meeting, the [✂], Motorola UK set out the tactics to be adopted by Motorola in these negotiations.[336]

113 On 6 November 2017, in the context of further enquiries being made by the PAC, Motorola sought a commitment from the Home Office to conclude the negotiations (including extending the operation of the Airwave Network) by December 2017, subject to which Motorola would instruct Vodafone to proceed with the necessary investment in the relevant elements of the network. Motorola's position was perceived by the Home Office as an ultimatum and appears to have been effective in putting pressure on it.[337] A briefing prepared for the Permanent Secretary prior to meeting Motorola's Chief Executive made this assessment:

> [✂].[338] [339]

114 The outcome of these interactions between the parties was that, by the end of December 2017, Motorola had secured a payment of £[✂] million relating to ESN, in return for, among other things, entering into a contract with [✂].[340]

Part 5: Information asymmetry between Motorola and the Home Office

115 This part of this Appendix sets out factual and evidential material relating to the Home Office's requests to Motorola for information about costs and capital expenditure as part of the 2016, 2018 and 2021 negotiations. Its contents support our analysis in paragraphs 4.187 to 4.188 in section 4 of our report in particular.

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[335] Email from Motorola to the Home Office and Motorola internal email, 17 October 2017 [✂]; internal Motorola presentation, 17 October 2017 [✂]; and email from Motorola to the Home Office and Motorola internal emails, October 2017 [✂].

[336] Internal Motorola emails, 1 September 2017 [✂]; Additional relevant Motorola evidence: email from Motorola to the Home Office and Motorola internal emails, October 2017 [✂] and internal Motorola email, 19 October 2017 [✂]

[337] Internal Home Office emails, 7 November 2017 [✂]; Internal Home Office emails, 8 November 2017 [✂]; email correspondence between the Home Office and external consultants, 7 November 2017 [✂]; and email from the Cabinet Office to the Home Office and internal Home Office emails, 8 November 2017. [✂]

[338] Home Office briefing paper, 23 November 2017 [✂] and Home Office briefing paper, 23 November 2017 [✂]

[339] Email correspondence between Motorola and the Home Office, 15 December 2017 [✂] and Motorola internal email, 21 December 2017. [✂]

[340] Email from Motorola to the Home Office and the Cabinet Office, 15 December 2017. [✂]

116 The first such request was in February 2016,[341] when the Home Office asked Motorola to consider applying to the Airwave contract ‘open book’ accounting provisions like those for the Lot 2 (ESN) contract. Motorola refused, citing two reasons:

(a) the complexity of the suite of Airwave contracts; and

(b) that Motorola was ‘stepping into existing 15 year old fixed price contracts that have already been negotiated and agreed. The terms of those contracts were the foundation and basis for the way we looked at the acquisition and all our approvals to proceed were founded on that analysis’.[342]

117 The second request was in December 2017, at which time the Home Office asked for more information on the cost of operating the Airwave Network to assist the negotiations planned for 2018. Instead of seeking open book accounting, it sent Motorola a set of questions to be answered, to ‘provide a scope for the Airwave financial transparency that the Authority requires’ and ‘to facilitate negotiations planned for 2018’. Motorola responded that the request went ‘... very far beyond the current transparency obligations in the ASL[343] contracts’.[344]

118 The 2018 negotiations started with no additional information being made available by Motorola. Home Office internal documents indicate that in July 2018 it sought to make the lack of transparency ‘a central issue in the

[341] As part of the 2016 change of control negotiations when Motorola was seeking to acquire Airwave Solutions.
[342] The Home Office then asked if such provisions could be considered in the future. Motorola responded that this would be a function of three factors that would need to be worked though on a case by case basis, namely: [✂]. Email from Motorola to the Home Office, 12 February 2016. [✂] Also internal Home Office emails, 10 February 2016 [✂] and correspondence between the Home Office and Motorola, 10-12 February 2016. [✂].
[343] We understand this to be a reference to Airwave Solutions Limited.
[344] The debate between the parties continued throughout January and February 2018, with Motorola noting that: [✂] Email from Cabinet Office to Motorola, 13 December 2017 [✂]; email correspondence between Motorola and the Cabinet Office, 13 December 2017 and 16 January 2018 [✂] email correspondence between the Home Office, Cabinet Office, Motorola and external consultants, 22-16 January 2018 [✂] and [✂]; internal Home Office emails, 12-15 February 2018 [✂]; email from Motorola to the Home Office, 22 January 2018 [✂] ; email correspondence between the Cabinet Office and Motorola, 22 January 2018 [✂]; email correspondence between the Cabinet Office and Motorola, 22-23 January 2018 [✂]; Home Office questions to Motorola, 23 January 2018 [✂]; and internal Motorola emails, 28 February 2018 [✂].

negotiation'.[345] However, the negotiations were concluded without Motorola providing more costs information to the Home Office.[346]

119 The Home Office's third request came in an August 2021 video conference[347] between the parties, where it asked whether Motorola would consider an open book approach on a quarterly basis in future and Motorola refused. When the Home Office asked for a breakdown of the main cost drivers and their impact, Motorola responded by providing a limited set of information. In related correspondence to Motorola,[348] the Home Office stated that the agreement to extend the operation of the Airwave Network in 2018 was based on 'limited knowledge of Motorola's profit and return on investment and based on a national shutdown date of Dec 2022'. It said that Airwave Solutions was now seeking a further investment of £[✂] million[349] and asking the Home Office to fund a substantial part of it through an increase of service charges 'without having sufficient transparency about previous investments nor control over the future delivery of it'.

120 Finally, in September 2021,[350] the Home Office again put to Motorola that there was 'little financial information available, and no clear line of sight between Motorola's proposed charges, and the costs and risks of providing Airwave' and that on 'the limited information available, the Authority can only conclude that Motorola's proposed charges materially exceed the pricing that would be appropriate, and do not represent value for money'. In a subsequent letter, Motorola acknowledged that the Home Office had a desire 'to demonstrate value for money in any extension agreement.' However, it went on to note that such a requirement involved a 'far greater insight into Airwave's cost profile than our contracts require or that it is appropriate for us to provide'.[351]

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345 Internal Home Office emails, 4-5 July 2018 [✂]; email correspondence between Motorola and the Home Office and internal Home Office emails, 2-5 July 2018 [✂]; email correspondence between Motorola and the Home Office and internal Home Office emails, 4 July 2018 [✂]; internal Home Office email, 10 July 2018 [✂]; and email correspondence between Motorola and the Home Office and internal Home Office emails, 4-5 July 2018 [✂].
346 We note that, in a letter sent to the Home Office in 2021 (letter from Motorola to the Home Office, 2 August 2021 [✂], Motorola stated that 'in 2018 the Home Office and Motorola agreed terms for an extension to 31 December 2022. At no point during those discussions was cost disclosure raised as a consideration for the Home Office in determining that this was value for money. That 2018 extension was needed because of delays to the ESN programme'. This account of what happened in 2018 does not appear to us to be consistent with either the exchange of emails in early 2018 that is referred to in this paragraph, or the Home Office's contemporaneous records of what it saw as key issues in July 2018.
347 Email from Home Office to Motorola, 4 August 2021. [✂]
348 Letter from the Home Office to Motorola, 5 August 2021. [✂]
349 Motorola has described this to us as a figure representing a 'rough order of magnitude'.
350 Letter from the Home Office to Motorola, 14 September 2021. [✂]
351 Letter from Motorola to the Home Office, 2 August 2021. [✂]

Part 6: The credibility of asset transfer as an option for the Home Office

121 This part of this Appendix sets out factual and evidential material relating to whether the transfer of the Airwave Network assets was a credible option for the Home Office in its negotiations with Motorola. It supports our analysis in paragraphs 4.189 to 4.211 in section 4 of this report in particular. We start by considering the evidence in Motorola's documents, then consider the Home Office's.

Motorola documents

122 In June 2018 Airwave Solutions / Motorola made a presentation to the Home Office relating to the 2018 negotiations. In it they advocated a 10-year extension of the PFI Agreement, and refused to offer an 18-month rolling contract extension, saying that would mean significant price rises. The grounds advanced in favour of a long extension highlighted the benefits of continuity of the Airwave Network service (rather than, by implication, the risks associated with asset transfer):

> 1. Service continuity: Protect the live Airwave service and ensure that it continues at current levels of service. Avoid risks driven by component/element obsolescence.
>
> 2. Sensible Economics: Invest only in what is needed to achieve service continuity. Lower user service charges accordingly.
>
> 3. Simplify: Streamline the management of the Service for everyone involved (contractually, operationally, billing, management etc).[352]

123 The above document is therefore consistent with Airwave Solutions / Motorola being aware of the risks to the Airwave Network service involved in any asset transfer and not treating it as a credible option for the Home Office.

124 Airwave Solutions' / Motorola's documents from around the time of, or in relation to the 2021 negotiations are even more revealing. For example, Motorola's statutory impairment review of 31 December 2019 has a section on 'changes to the use or life of the [Airwave] asset' which refers to the use

[352] Motorola internal document, 6 June 20.18

of the assets up to 2029, but makes no reference to the Home Office's ability to acquire them. It contains the text quoted in paragraphs 4.150 and 4.173 of this report, which makes express reference to the lack of alternative options:

> Pricing for the next extensions beyond 2022 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 ... The company's target market in the UK public sector remains resilient and unchanged from prior years. Airwave effectively has 100% market penetration, secured under long-term contracts.[353]

125 Motorola's operations review of August 2020 refers to its preparations for the 2021 negotiations. It refers to Motorola seeking 1-3 or 4-6 year extensions of the Airwave contract. It also refers to challenges Motorola anticipated during the 2021 negotiations and to key contract terms, but makes no reference to asset transfer or any risk that posed to length of the contract extension or the price Motorola could obtain.[354]

126 Motorola's statutory impairment review of 31 December 2020, which is also quoted in paragraph 4.150 of this report, again refers to the use of the Airwave Network assets up to 2029, makes no reference to the risk of asset transfer and says, as we note in those paragraphs:

> The TETRA technology used within the Airwave asset is still in use throughout the world and still being used in network rollouts in some countries. There is no alternative technology currently available to Airwave's UK customers and Airwave has no direct competitors.[355]

127 It is also notable that, in June 2021, Motorola sought an increase to the price of the Airwave Network services of [✂]. That indicates that it did not consider the transfer of the assets a credible option for the Home Office or a credible threat to its own position.

Home Office documents

128 The evidence in relevant Home Office documents also supports our assessment. The June 2018 version (6.0) of the [✂] is in practically identical

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[353] Motorola statutory impairment review, 31 December 2019. [✂]
[354] Internal Motorola presentation, 25 August 2020, [✂]
[355] Motorola statutory impairment assessment, 31 December 2020. [✂]

terms to the 2014 version (3.0) quoted in paragraph 4.71 of this report. It, too, refers to the relevant asset transfer provisions as having the effect of:

Rendering any prospect of a 'Termination' option (and by implication any attempt to take control of the ASL 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.[356]

129 The 2018 version of the document also noted other uncertainties, such as those relating to the transfer of staff with relevant expertise:

> Nor could it be sure what assets, subcontracts and staff it [the Home Office] could rely on getting access to and/or transfer to its new provider…[357]

130 The Home Office's internal documents relating to the 2018 negotiations, to which we refer in paragraph 4.206 of this report, do not refer to the possibility of asset transfer as either a practical solution it could pursue where the transition to ESN was delayed or a negotiating threat to Motorola. They show that at that time it expected the transition to ESN to be complete by the end of 2022 (or thereabouts), and that it sought extensions of the operation of the Airwave Network of between 18 months and three and a half years while it focused on the delivery of the more advanced functionality of ESN.

131 Those documents also demonstrate, as we note in paragraph 4.185 of this report, the Home Office's concern about the ongoing dependence on Motorola for inputs to the Airwave Network and the inhibiting effect that had on the Home Office's bargaining position.[358] Additionally, they contain this reflection on the negotiations, which is consistent with the Home Office having sought to exercise such credible options as it had available to it to bid down the price of the Airwave Network services, and that it did not regard these as including a transfer of the assets:

> We have highlighted all levers available on Airwave with limited success - it is hard to see how we will be able to

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[356] Supporting document to Home Office response to RFI dated 22 December 2022, page 5. [✂]
[357] Supporting document to Home Office response to RFI dated 22 December 2022, paragraph 1.2. [✂]
[358] Internal Home Office email, 27 March 2018. [✂]

improve their offer still further as they are the only available supplier.[359]

132 The Home Office documents relating to the 2021 negotiations suggest that the transfer of the Airwave Network assets was not a credible option at that time either. We note that they show that, in the context of 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 also 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.

133 Specifically, a draft June 2021 document referred to the options of acquiring the Airwave assets or of developing the 'acquisition option with a view to improving the terms of extension.'[360] The Home Office's June 2021 'negotiation playbook' sets out its consideration of whether it could acquire the assets in 2022 (and 2026)[361] (or threaten to do so).

134 However, the former document also referred to the fact that the transferable assets and their valuation would require determination. In other words, it acknowledged the uncertainty and potential for dispute and delay arising out of the asset transfer provisions.

135 The latter document, meanwhile, discounted the option of acquiring the assets (or threatening to do so) in the short-term, concluding that it was 'difficult to implement,' 'too risky' and involved 'unknown cost / undefined contract position.' On raising the possibility of asset transfer as negotiating leverage, the document said, 'Threat of in-sourcing (questionable)' and, in assessing the 'Risks / Limitations' of the option, the document questioned 'Is it a threat?' The Home Office did not pursue that option or the threat of it.

[359] Home Office document, 23 July 2018 [✂], attached to internal Home Office email 23 July 2018 [✂]
[360] [✂]
[361] Home Office internal document, June 2021. [✂]

APPENDIX F: BENCHMARKING

Introduction

1 In its response to the Issues Statement, Motorola stated:[362]

> 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 [✂] when the [✂] to invoke these provisions. In addition to carefully drafted provisions on pricing, the contract with the Home Office contains an independent third-party referral process (the "Benchmarking Process")[363] 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.

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[362] Motorola's response to the Issues Statement, paragraph 94.
[363] 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.

2 In its 15 November 2021 submission,[364] Motorola commented specifically on the benchmarking carried out by Gartner, Inc (Gartner) on behalf of the Home Office in 2014, in the following terms:

> 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.' Trying to correct for these differences, Gartner attempted to construct a measure of ongoing service charges for Airwave, stripping out components that should cover implementation and capital maintenance and cost of capital, as well as calculating a single annual contract charge for peer networks. Using the first approach, Gartner found that Airwave's imputed ongoing service charges were between [✂]% and [✂]% [✂] what Gartner considered to be a value-for-money price. Looking at single annual charges, Gartner found that the total Airwave cost was between [✂]% and [✂]% [✂] than the value-for-money price.

3 The purpose of this appendix is to set out relevant facts on benchmarking that we have been able to establish based on our review of the internal documents obtained from Motorola in response to our statutory information notice of 13 December 2021 and documents obtained from the Home Office in the course of January and February 2022, as well as in light of responses to the PDR. This includes mainly:

(a) Key contractual provisions, including [✂] of the PFI Agreement;

(b) The benchmarking reports produced under [✂] of the PFI Agreement;

[364] Motorola's response to the CMA's final report and decision on a Market Investigation Reference, 15 November 2021, paragraph 150.

(c) Internal emails and email exchanges involving Motorola staff; and

(d) Internal emails and email exchanges involving Home Office staff.

4 The contents of this appendix support our analysis in section 4 of our report.

Relevant contractual clauses

The PFI Agreement

5 The primary provision on benchmarking is set out in [✂] the PFI Agreement.[365] The benchmarking mechanism is a detailed analysis that enables the Home Office to ‘assess the continuing value for money exercise of the Network Services’. [✂] sets out the scope of benchmarking, its process, its frequency and the options available following the results of benchmarking.

6 The term ‘Value for Money’ is defined as follows [✂] of the PFI Agreement):

> The benchmarking shall provide a detailed analysis that enables the AUTHORITY to assess the continuing Value for Money of the Network Services. The term ‘Value for Money’ shall mean, given the service quality and service levels provided by the CONTRACTOR in relation to those available in the open market, whether the Contract Charges paid for the supply of Network Services to Customers under the Services Contracts materially exceeds pricing that would be appropriate for market conditions current at the time of the benchmarking exercise. The benchmarking may also include recommendations about service delivery, service levels, service standards and ‘best practice’ in addition to any review of Contract Charges.

7 Factors considered when undertaking the benchmarking exercise include (but are not limited to):

- The prices charged for the Airwave Network.
- The prices charged for Core Services and Menu Services (as packages).
- The basis on which the Charging Structure operates.

[365] The PFI Agreement. [✂]

- The prices charged for comparable services elsewhere.
- The scope of alternative services.

8 According to [✂], the benchmarking exercise is (was) supposed to take place 6 years from the Pilot Ready for Service ("RFS") Date and subsequently no less than every 5 years.

9 Other relevant clauses include (summarised):

(a) [✂] – The Home Office has the right to cancel any element of the Network Services if the benchmarking process 'results in a recommendation that the benchmarked services is not "value for money" [✂]' and despite 'good faith negotiations' and use of the Dispute Resolution Procedure if necessary, the parties are not able to 'conclude suitable amendments' to the PFI Agreement.

(b) In the event that there is a dispute or claim as to the terms of the PFI Agreement, the parties are encouraged to negotiate in good faith to resolve it. If this is not possible, [✂] sets out the scope and procedure for dispute resolution. [✂] states that 'in the event that the dispute or claim is not resolved by negotiation within 21 (twenty one) days of referral to the Director level the dispute may be referred to arbitration'. This is subject to the right of either party to refer the dispute or claim to court in England and Wales.[366]

The 'Ambulance' contracts

10 The main provisions as to benchmarking [✂].[367]

11 Under [✂], following the third anniversary of the Effective Date (19 July 2005) the Authority is entitled to require 'Benchmark Reviews of the Services, Charges and Service Level Specification'. The Authority would not be able to request another such review for at least 24 months [✂].

12 However, the Authority is entitled to make a written request at any time following the Effective Date requiring 'additional Benchmark Reviews in respect of any Charges payable by the Authority in respect of any Lot that consists entirely of Commodity Components included in Bundle 2' [✂].

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[366] [✂]
[367] Ambulance Main Agreement. [✂]

13 The Authority can select an independent third party to undertake the review; however it must not be a ‘material competitor’ of Airwave Solutions. There is also an obligation on the Authority to declare if the third party selected to do the benchmarking has a ‘material competitor’ of Airwave Solutions as a client.

14 ‘If any Benchmarking Review determines that any or all of the Services, Charges and Service Level Specifications are not Good Value’ there is an expectation that:

- Airwave Solutions reduces the charges within 3 months of receipt of that Benchmarking Report; and/or
- If the Authority so requests, Airwave Solutions shall improve the Services and/or Service Level Specifications in accordance with the relevant Benchmarking Report within 6 months of receipt of that Benchmarking Report (this can be extended by mutual agreement).

Failure to take these steps ‘shall, without prejudice to any other rights or remedies of the Authority, any Authority Service Recipient or any Authority Party, constitute a Contractor Event of Default’.

15 Airwave Solutions has a right to make submissions to the benchmarker; however, it cannot dispute the decision unless there has been a failure by the Authority or the Benchmarker, or it ‘reasonably considers’ the decision to be rooted in ‘bias, procedural irregularity and irrationality’ [✂]. If there is such a dispute, it will be subject to the Dispute Resolution Procedure, set out in [✂] of the main Ambulance Contract.

16 The provisions governing the appointment of a benchmarker, and the benchmarking process are set out in [✂] of the Ambulance Contract. This Schedule also includes a description of “Good Value”, which takes into account charges being less or equal to a specified threshold [✂] as well as service level specifications [✂]. It is explicitly stated in this schedule that benchmark reviews ‘shall not result in any increase to the Charges (either individually or in aggregate) or any decrease in the performance of any Services or Service Level Specifications’ [✂]

17 The Scottish Ambulance ARRP Agreement (“SAS Contract”) is a separate customer contract to the main Ambulance Contract, where the parties are the Scottish Ambulance Service Board and [Motorola/the contractor]. However, its terms are similar to the main Ambulance Contract, including those concerning benchmarking. One thing of note is that the Scottish Ambulance Service Board is reliant on the Authority (Secretary of State for Health prior to 2016, now the Home Office) exercising its rights as to

Benchmarking, before the Board can exercise its rights as to Benchmarking [✂].

18 In both the main Ambulance Contract and the SAS Contract the terms concerning dispute resolution and its procedure are almost identical. The parties are expected to negotiate in good faith to resolve any dispute or claim that may arise. However, if the dispute cannot be resolved without it becoming contentious, arbitration is available to the parties. In their respective contracts, where court proceedings have not commenced, there is a requirement on the Board and the Home Office to serve on Motorola a notice that the dispute be referred to arbitration.[368] In the event that court proceedings have commenced, the courts of England and Wales shall have exclusive jurisdiction.[369]

Benchmarking exercises and outcomes

19 Our understanding is that there have been only two benchmarking exercises throughout the duration of the PFI Agreement - in 2008 and in 2013/14, and none since then.

The 2008 benchmarking exercise

20 The 6 May 2008 benchmarking report[370] was commissioned by Airwave Solutions from Accenture in February 2008 under [✂] of the PFI Agreement.

21 Recognising the challenge of identifying a basis for comparison given the unique nature of the Airwave Network and the contractual arrangement (the PFI Agreement), Accenture drew evidence from a number of sources:

(a) data and information on the trends within the wider UK communications market over the eight years preceding the benchmarking exercise;

(b) data and information on developments in voice and data UK government markets, including PFI arranged programmes; and

(c) comparable foreign public safety networks.

[368] [✂] in both the main Ambulance Contract and the SAS Contract
[369] [✂] in both the Ambulance Contract and the SAS Contract
[370] Accenture Report for Motorola, May 2008. [✂]

22 Based on this evidence, Accenture made a number of general observations:[371]

> In line with UK Treasury guidance on benchmarking, and the terms of the Framework Agreement, our assessment could only review the charges for the Airwave service as a whole in comparison with other contracts, not the actual costs incurred by Airwave Solutions. Without a detailed breakdown of the costs, it is impossible to normalise the charges from all comparison contracts, in order to create a like for like comparison.
>
> When comparing the network services against the wider communication market place the report does highlight a divergence in the overall trend of a reduction in the per unit pricing for other UK government voice and data solutions and the wider communications market place, whilst the Network Services have shown increased charges in accordance with the contractually defined indexation mechanism.
>
> We have analysed the key drivers that have enabled other providers to reduce their prices over time, but it is clear that a number of these drivers are not available to Airwave Solutions:
>
> - The market is closed (both in terms of number of organisations allowed to use the service, and the spectrum available) so volume growth is limited and thus the economies of scale seen in the marketplace generally, are not achievable to the same extent.
> - The security requirements make it difficult for Airwave Solutions to fully leverage the lower cost which might arise from supporting some functions offshore.
> - The high availability and coverage requirements, which require a relatively high level of staffing, where some of the price reductions seen in the general

371 Accenture Report for Motorola, May 2008. [✂]

market have been as a result of a more basic service being provided.

However, there are two areas in particular where we believe further investigation and discussion may be worthwhile:

- Network services will contain an element of cost that arises from sub-contracted ground based network costs, which we believe would be at least in part subject to the general market price reductions;

- There have been many improvements in operational efficiency made by other operators in the general market which have not required offshore working, and some discussion between NPIA and Airwave regarding operational efficiency improvements achieved to date, would inform a discussion on whether it is reasonable for the labour element of the cost to increase in line with inflation and earnings each year.

When compared against other TETRA based public safety networks within the European market place the Network Services provided by the Framework Agreement are broadly in line with the capability and service performance of those contracts. However the headline cost per user calculates higher in the UK when compared with the foreign comparators we analysed. Within the report we provide an overview of the factors that could justify such differences – such as geography, demographics, network build financing and overall risk management.

23 In relation to whether Airwave Solutions offered value for money, Accenture reached three conclusions that called into question the effectiveness of the benchmarking provision included in the PFI Agreement:

(a) Without carrying out a detailed cost (rather than price) comparison, it is difficult to draw any significant conclusions about relative Value For Money.

(b) Having explored a number of different approaches to assess ‘value for money’ of the charges of the Framework Agreement, we can only conclude that further cost based analysis would be required in order to normalise the comparison cases to create a fair like for like comparison.

(c) The Framework Agreement does not oblige Airwave Solutions to provide such information, and we believe it would be very difficult obtaining such cost data from the European comparators.[372]

24 Accenture also recommended that:

> …. for future contracts, if the benchmark is to be effective, there should be a pre-agreed model for benchmarking of specific elements (eg the ground network in isolation). This would allow comparators to be more easily found. If the pricing could be broken down so that the charges associated with risk, financing, recovery of asset investments could be removed in order to identify the base running charge for the service, it would also be easier to compare on a like for like footing with other contracts. At the same time, a productivity improvement factor should be incorporated to create a potential offset to inflation, and the indexation formulae should be applied at a more granular level so that, for example, deflationary trends in the technology market place such as network charges and desktop prices, are applied to those elements of the contract.[373]

25 Motorola has refused to provide the Home Office with additional price transparency since 2016,[374] but we note that Airwave Solutions is not contractually obliged to provide any of the costs information to which Accenture referred.

26 We also note that, notwithstanding the limitations highlighted by Accenture, the comparison it carried out against similar public safety networks in Europe pointed towards the Airwave Network being significantly more expensive than other comparators.

The 2013/14 benchmarking exercise

The report

27 In 2013, the Home Office asked Airwave Solutions to commission a benchmark of the network services it provides under the framework

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[372] Accenture Report for Motorola, May 2008. [✂]
[373] Accenture Report for Motorola, May 2008. [✂]
[374] Email from Motorola to the Home Office, 12 February 2016; [✂]; Motorola internal email, 12 January 2018. [✂] In contrast, it would appear that under previous ownership, Airwave Solutions had appeared willing to engage with this issue (Email from Airwave Solution to the Home Office, 19 January 2015 [✂]).

arrangement for police forces (the PFI Agreement) to validate if Airwave Solutions was meeting the Value for Money commitments set out in the original contract. The appointed benchmarker, Gartner, delivered its final report on 1 July 2014.[375]

28 First, Gartner sought to establish the meaning of value for money, as defined in [✂] of the PFI Agreement (see paragraph 6), as follows:

> "Value for Money" shall mean the charges for the benchmarked services are, having regard to the service level targets, within +10% of the mean average of the normalised peer group charges.

29 Second, Gartner sought to benchmark Airwave Solutions' services against four European peers and although, unlike Accenture, it was able to produce comparators, the financing of the Airwave Network through a PFI arrangement created challenges, which it sought to address through the development of a bespoke financial model alongside its benchmarking process, which isolated three different components to Airwave's pricing:

(a) the ongoing operational service, estimated by Gartner through the modelling exercise to be £[✂]m and for which direct comparisons with peers could be performed (see table below);

(b) costs associated with the implementation of the network: 'the outcome of this validation process was that the Airwave capex costs for implementation, in the opinion of Gartner, were considered reasonable and should be taken forward for the purposes of the financial model'; and

(c) the PFI finance component.

30 Gartner concluded:

> The component of the annual Contract Charge for which Gartner could perform a credible price benchmark is the ongoing operational services. The result is that the Airwave price for this component exceeds the Value for Money measures applied to the adjusted peer prices.[376]

> (Figure F-1 below shows these results).

[375] Report by Gartner for Airwave Solutions and the Home Office, 1 July 2014. [✂]
[376] Report by Gartner for Airwave Solutions and the Home Office, 1 July 2014. [✂]

Figure F-1: benchmark against peer ongoing service prices[377]

[✂]

31 Gartner recommended that:

(a) The Benchmark Schedule should be revised to adopt a numerically precise definition of Value for Money.

(b) Airwave and Home Office ensure any follow-on programme has a charging structure that is in effect itemised, allowing a more straightforward and transparent benchmarking and price adjustment process to take place.

(c) The normalised ongoing service charge element, when compared to peers, is used as the basis for Home Office judgements on Value for Money.

(d) Best practice at the conclusion of a benchmark is, where necessary, to activate any escalation clause, once the good faith principles that the Authority and Contractor have adopted to-date have become exhausted.

The dispute

32 [✂] of the PFI Agreement[378] sets out the benchmarking procedure to be followed and governs the steps to be carried out after a benchmarking exercise has been completed. [✂] states that the parties shall amend the PFI Agreement in accordance with the recommendations of the benchmarking exercise. The Home Office's interpretation of the relevant PFI Agreement clauses was that it was immediately entitled to a reduction in price to reflect the findings of the Gartner analysis. The Home Office initially sought to recover these costs by withholding or reducing the fees it was to pay Airwave Solutions whilst negotiating a permanent discount agreement.[379]The PFI Agreement provides, however, that where the benchmarking exercise results in a recommendation that the Network Services do not represent value for money, then the parties shall negotiate in good faith to amend the PFI Agreement to ensure that the costs represent

[377] [✂]
[378] PFI Agreement, 29 February 2000 [✂]
[379] Internal Home Office email, 8 June 2015; [✂] Internal Home Office email, 16 September 2014. [✂]

value for money in line with the recommendations of the benchmarking exercise.[380]

33 The PFI Agreement requires the parties to conclude good faith negotiations within three months of the submission of the benchmarking report.[381] The Home Office and Airwave Solutions began negotiating to apply these recommendations as required but the discussions continued without results as Airwave Solutions did not agree with the outcomes of the Gartner report and sought changes to the recommendations from Gartner directly.[382] On 16 July 2014,[383] Airwave Solutions wrote to Gartner, advising it did not accept the Final Report produced and its belief that Gartner had failed to comply with [✂] and therefore failed to comply materially with its Statement of Work.[384] The Home Office responded to this letter[385] and re-stated its position that the methodology used by Gartner had been signed off at 'multiple stages throughout the six-month Benchmarking process' and its view that 'any objection to the methodology after it had been agreed to was invalid'.[386] In preparation for the exercise, weekly meetings were held with Gartner, the Home Office and Airwave Solutions regarding the approach to be taken and the limits that would be applied to the scope of the comparison.[387] Airwave Solutions wrote to the Home Office on 2 October 2014,[388] continuing the good faith negotiations, and confirmed again its position that Gartner 'erred in seeking to provide comments on the question of whether the artificially isolated 'service charge' element of the Contract charges represented Value for Money.' Airwave Solutions considered this went beyond the requirements set out under [✂] and was not agreed to by Airwave Solutions. Instead, Gartner should have compared the Network Services and Contract charges, as a whole, against peers to determine if they represent Value for Money.

34 Where 'good faith negotiations', as required by the benchmarking provisions, fail to produce an outcome, the Dispute Resolution Procedure set out at [✂] of the PFI Agreement will come into effect. By January 2015,[389] there had been no progress in the initial 'good faith' negotiations: the Home Office continued to consider that the Gartner recommendations were to be

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380 PFI Agreement, [✂]
381 PFI Agreement, [✂]
382 Internal Home Office email, 27 February 2015 [✂]
383 Letter from Airwave Solutions to Gartner, 16 July 2014 [✂]
384 Statement of Work for the benchmarking report carried out by Gartner, 31 December 2013. [✂]
385 Letter from the Home office to Airwave Solutions, 23 July 2014. [✂]
386 Letter from the Home office to Airwave Solutions, 23 July 2014. [✂]
387 Internal Home Office email, 9 June 2015 [✂]
388 Letter from Airwave Solutions to the Homes office, 2 October 2014. [✂]
389 Email from Airwave Solutions to the Homes Office, 28 January 2015. [✂]

implemented without alteration whilst Airwave Solutions disputed the findings and methodology of the report and declined to effect the price reduction. The Home Office initiated the dispute resolution procedure requiring 'Authorised Commercial representatives' to begin a 30-day period of negotiations to settle the matter.[390] This was referred to as 'stage 1' of the dispute resolution process. On 27 February 2015, the Home Office notified Airwave Solutions, by way of letter,[391] and confirmed its intention to apply the recommendations of the Gartner report to the PFI Agreement. The first negotiation meeting at this stage of negotiations was held on 23 March 2015[392] and it also failed to produce any results.

35 The matter was escalated to 'stage 2' of the dispute resolution process, whereby the Head of Service and Public Safety Radio Communications Service (PSRCP) Project Director are required to engage in a further 30-day period of negotiations[393]. This stage was extended until 15 May 2015[394] to allow further discussions and attempts by both the Home Office and Airwave Solutions to reach a settlement before proceeding to the third and final stage of the process.

36 The third and final stage of negotiations requires the matter to be escalated to Director level for an additional 21-day period of negotiations. On 1 June 2015,[395] the parties held the first stage 3 dispute resolution meeting. At this meeting the Home Office restated its position and Airwave Solutions undertook to take the matter back to its board.[396]

37 The final recourse for any disputes that are not resolved by negotiation within 21 days of referral to the Director level, is referral, by notice to the other party, to arbitration, subject to any right to refer the dispute to the court.[397] In regard to the benchmarking dispute, the Home Office issued proceedings in the High Court to effect the changes recommended by the Gartner report. Proceedings were issued on 8 October 2015,[398] 15 months after the Gartner report was submitted. The dispute resolution process as set out in the contract should have taken 81 days following the 3-month good faith negotiation period and therefore should have been concluded by 19 May 2015. The proceedings were subsequently stayed whilst

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390 PFI Agreement, [✂]
391 Letter from the Home Office to Airwave Solutions, 27 February 2015. [✂]
392 Home Office meeting minutes 23 March 2015. [✂]
393 PFI Agreement, [✂]
394 Home Office excel document. [✂]
395 Letter from Airwave Solutions to the Home Office, 17 June 2015. [✂]
396 Internal Home Office email, 14 August 2015. [✂]
397 PFI Agreement, [✂]
398 Sealed claim form [✂], 8 October 2015. [✂]

negotiations relating to the approval of Motorola's acquisition of Airwave Solutions by the Home Office took place.

Table F-1: Chronology of Events

19th June 2013[399]	Home Office initiated the benchmarking exercise by letter
11th October 2013[400]	The Request for Proposal was issued beginning the procurement process for an auditor to carry out the benchmarking exercise.
18th December 2013[401]	Airwave Solutions provided approval for Gartner to be awarded the benchmarking exercise.
31st December 2013[402]	Gartner issued Statement of Work.
17th January 2014	Gartner was commissioned to conduct the benchmarking exercise and produce the Benchmarking report.
18th February 2014	Gartner issued an update on the Benchmark Approach to be followed.
2nd July 2014[403]	Gartner Benchmarking Report was submitted to both the Home Office and Airwave Solutions.
3rd July 2014	*The 3-month good faith negotiation period began.*
1st Sept 2014[404]	Gartner issued an updated Executive Summary to the Benchmarking Report in response to Airwave Solutions' concerns.
5th September 2014	First Good Faith Negotiation Meeting held.
26th September 2014[405]	Good Faith Negotiation Meeting held.
3rd October 2014	*Good Faith Negotiation period should have ended.*
17th December 2014	Good Faith Negotiation Meeting held.
27th February 2015[406]	Home Office initiated the formal dispute resolution procedure by issuing written notice to Airwave Solutions.
24th March 2015	Dispute Resolution meeting held.
30th March 2015	Stage 1 Dispute Resolution should have ended.
27th April 2015	Dispute Resolution meeting held.
19th May 2015	*The 81-day Dispute Resolution Process should have ended following issue of initiation letter on 27th February 2015.*
1st June 2015	Dispute Resolution meeting held.
5th June 2015	*Expected End of Stage 3 of the Dispute Resolution process.*
9th September 2015	Letter of Claim served on Airwave Solutions.
8th October 2015[407]	Court Proceedings begin; Home Office Claim Form and Particulars of Claim filed with High Court.
5th November 2015[408]	Airwave Solutions served their Defence on the Home Office.
7th December 2015[409]	Home Office filed its Reply.

Other 2015 developments

38 Our understanding is that Motorola first found out that Airwave Solutions and the Home Office were in dispute over the benchmarking results in March 2015 in the course of a due diligence meeting with Macquarie, as shown in the following meeting note comment:

> [✂].'[410]

[399] Sealed claim form [✂], 8 October 2015 [✂]
[400] Document provided by Motorola to the Home Office. [✂]
[401] Email from the Home office to Airwave Solutions, 13 December 2013. [✂]
[402] Gartner Report "Benchmark of ASL Network Services", 31 December 2013. [✂]
[403] Letter from Gartner to Airwave Solutions, 2 July 2014. [✂]
[404] Letter from Gartner to Airwave Solutions, 1 September 2014. [✂]
[405] Home Office meeting minutes, 26 September 2014. [✂]
[406] Letter from home Office to Airwave Solutions, 27 February 2015. [✂]
[407] Sealed claim form [✂], 8 October 2015. [✂]
[408] Sealed defence [✂] 5 November 2015. [✂]
[409] Reply to defence [✂] 7 December 2015. [✂]
[410] Motorola note of meetings, 10 and 11 March 2015. [✂]

39 [✂]:

[✂]:

1. [✂].

2. [✂]

3. [✂].

4. [✂].[411]

40 [✂].[412] [✂].’[413] [✂]’[414]

41 [✂].[415] [✂][416] [✂].

42 [✂].[417]

43 [✂]:

(a) [✂].

(b) [✂].

44 [✂].[418]

45 In late September 2015, Motorola found out that the Department of Health was considering its right to benchmark for the first time: ‘[✂].’[419] [✂].[420]

46 As part of the court proceedings against Airwave Solutions started on 8 October 2015, the Home Office appears to have sought a discount of £[✂]m/annum.[421]

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[411] Motorola internal email, 22 July 2015. [✂]
[412] Motorola document. [✂]
[413] Motorola internal email, 25 July 2015. [✂]
[414] Motorola internal email 30 July 2015. [✂]
[415] Email from [✂] to Motorola, 3 August 2015. [✂]
[416] Letter from [✂], Guardian Digital Communications Limited to [✂], Home Office, 6 August 2015. [✂]
[417] Motorola presentation, 13 August 2015 and Motorola internal email, 6 August 2015. [✂]
[418] Letter from Motorola to [✂], 17 September 2015. [✂]
[419] Motorola internal email, 26 September 2015. [✂]
[420] Motorola document. [✂]
[421] Motorola internal email, 21 October 2015. [✂]

Benchmarking since 2016

The 2015/2016 negotiations

47 Motorola and the Home Office settled various disputes, including the one relating to benchmarking, as part of the change of control negotiations that took place in January/February 2016. In an internal email [✂],[422] [✂] set the agenda for the upcoming discussions, making it clear that getting both the Home Office and the Department of Health to waive their rights to benchmark was a key objective for Motorola of the upcoming negotiations.

48 Although Motorola had been prepared to pay up to £[✂]m to settle the various disputes, the amount agreed was £[✂]m[423] to be paid by Motorola to the Home Office in six instalments between 31 March 2016 and 31 December 2019: one of £[✂]m, one of £[✂]m and four of £[✂]m.

49 In return, the Home Office agreed to suspend its rights to undertake benchmarking exercises under the PFI Agreement until 1 January 2021.[424] In a separate settlement,[425] the Department of Health and Scottish Ambulance Board agreed to suspend their right to carry out a Benchmark Review until 1 January 2021 in respect of Bundle 1, although there is no evidence that this was in return for any discount. In respect of Bundle 2, both authorities agreed not to carry out a Benchmark Review until 1 July 2016 and that any change resulting from it would take effect on 1 January 2017. From our review of internal documents, it appears that no such Benchmark Reviews were carried out, and that no such review had previously been carried out by the health authorities.[426] We note that Motorola did not wish to obtain a waiver of the right to benchmark bundle 2 services because [✂].[427]

50 Our calculations indicate that the benchmarking settlement accounted for circa [✂]% of Airwave Solutions' core revenue (ie excluding menu services, the ambulance bundle 2 and other revenue), in the period from 2016 to year end 2019.[428] Motorola had estimated at the time of the negotiations (and

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[422] Motorola internal email, 22 December 2015. [✂]
[423] Motorola presentation slides "Airwave Transaction", February 2016. [✂]
[424] Settlement Agreement (Home Office & Motorola), 17 February 2016 [✂]
[425] Settlement Agreement (Scottish Ambulance Service Board & Motorola), 17 February 2016. [✂]
[426] Based on Macquarie's comments in early 2015.
[427] Motorola internal email, 10 February 2016. [✂]
[428] Motorola excel document: [✂] core revenue of £[✂]m, benchmarking/VOP discount of: £[✂]m of which £[✂]m are for the VOP settlement (i.e. the indexation settlement agreed with the Cabinet Office in 2014).

communicated to the Home Office) that the £[✂]m annual discount was equivalent to a [✂]% discount on ‘police fees’.[429]

The 2018 negotiations

51 Based on the documents that we have obtained, it appears to us that the waiving of the right to benchmark was discussed relatively late in the negotiations, with the potential deferral of the right to benchmark being introduced on 31 July 2018.[430]

52 On 1 August 2018, the Home Office rejected the offer, considering that [✂]:

> [✂].[431]

53 [✂].[432]

54 The Airwave Extension Term Sheet,[433] signed on 21 September 2018, states that [✂], thus confirming that the Home Office’s right to benchmark was waived until the end of the extension. It is however silent about rights to benchmark under the two ‘ambulance’ contracts.

The 2021 negotiations

55 [✂],[434] [✂].

56 However, in December 2021, in response to the Home Office’s letter[435] requesting the [✂]

> [✂]:
>
> (a) [✂];
>
> (b) [✂]; and
>
> (c) [✂].[436]

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[429] Email from Advalus to Motorola, 4 February 2016. [✂] It seems likely that the police fees, as referred to in this email, include both core and menu services.
[430] Internal Motorola email, 31 July 2018; [✂]. Motorola presentation slides, 31 July 2018; [✂] Motorola presentation slides, 25 July 2018; [✂] Motorola presentation slides, 31 July 2018 [✂]
[431] Email from Home Office to Motorola (provided by Motorola), 1 August 2018. [✂]
[432] Motorola document. [✂]
[433] Airwave Extension Term Sheet – Execution Version. [✂]
[434] Motorola document [✂].
[435] Letter from [✂], Home Office to Motorola dated 1 December 2021, referred to in the letter from [✂], Motorola to [✂], Home Office, dated 3 December 2021. [✂]
[436] Letter from [✂], Motorola to [✂], Home Office dated 3 December 2021. [✂]

57 On 20 December 2021, the Home Office [✂]. Our current understanding is that the Home Office therefore has the right to benchmark Airwave Solutions' services in accordance with [✂] of the PFI Agreement from 1 January 2023 onwards.

APPENDIX G: PROFITABILITY

Introduction

1 This appendix contains details of the evidence that we gathered and the analysis we carried out in order to assess the profitability of the Airwave Network.

2 The information obtained from our profitability analysis is used across two main areas:

(a) Diagnosis: as part of our assessment of market outcomes which can help us determine whether there is an adverse effect on competition (AEC) in the market for the supply of land mobile radio (LMR) network services for public safety in Great Britain; and

(b) Detriment: as part of our assessment of the degree and nature of any detrimental effect on customers so far as it has resulted from, or may be expected to result from, any AEC.

3 We consider first a practical issue relating to the timing of cashflows, then set out our detailed inputs and assumptions we used to create two profitability models to analyse profitability. In the section on profitability analysis, we set out sources of financial information, the adjustments we made to profit and loss information, and the adjustments to arrive at cashflow. Finally, we set out the profitability model calculations and results.

Approach to profitability analysis

4 In section 6 we set out our approach to profitability analysis, which is the discounted cashflow approach. We examine whether economic profits, measured as the net present value of cashflows (NPV of cashflows) are present, and also estimate the internal rate of return (IRR) and compare this with the relevant WACC. The following paragraphs discuss a practical issue relating to the use of discounted cashflows.

5 Since this profitability analysis uses cash inflows and outflows relating to operating activities, and the assets at the beginning and end of the relevant periods, a simplifying assumption in carrying out the profitability analysis is to treat all cashflows as though they happened at a single point in the year, either in the middle or at the end of the year. We note that where cash in and out-flows are distributed fairly evenly across the year, the middle of the year

assumption will not result in any material distortion to the analysis. We invited Motorola and other interested parties to make submissions as to whether this assumption is reasonable in this case, or, to the extent that cashflows are not evenly distributed, to provide more detailed/granular cashflow data. Motorola told us[437] that it considered the use of data matching the available accounting periods to be 'entirely appropriate', and that more detailed historical cash flow data was not available.

6 We consider that our assumption to treat all cashflows as though they happen at a single point in the year is reasonable. We note that our models generally assume that cashflows take place at the end of the year, which is likely to slightly under-estimate overall profitability given the pattern of up-front investment in the network and revenues received regularly through the year by Airwave Solutions.

Profitability analysis

Introduction

7 As set out in section 6, we have decided to split the profitability analysis into two periods, 2001 to 2019 and 2020 to 2029. This section sets out the detailed inputs and assumptions we used to create two profitability models to analyse profitability.

8 As set out in section 6 and above, both profitability models use a series of discounted cashflows. As a cashflow figure for each year for the Airwave Network was not available, we needed to carry out our own calculations and derivations from the financial information provided. We started with financial information, principally profit and loss accounts provided by Motorola, as well as Airwave Solutions' statutory accounts, and made adjustments to arrive at economically meaningful measures of profitability for each model.

9 Our starting point for an appropriate measure of profitability was operating profit. We made various adjustments to the line items making up operating profit, which are explained in the section on adjustments.

10 We then made further adjustments to the adjusted profitability figure to arrive at an estimate of cashflows for each year:

[437] Motorola's response to the CMA's Working Paper on Profitability, 10 January 2022, paragraph 23.

(a) First, adding back depreciation and amortisation as these are non-cash items, to arrive at a figure for funds generated by operations.

(b) Second, taking off capex and making an adjustment for working capital movements[438] in the year.

11 We also estimated opening and closing (residual) values of assets, decommissioning and redundancy costs, and the timing of those cashflows.

12 The cashflows for each year, with assumptions such as inflation and discount factors, are the inputs to the profitability models.

13 The profitability models calculate an NPV of cashflows and the internal rate of return (IRR), and these results are shown at the end of the section for each model.[439]

Profitability model 2020-2029

Sources of financial information

14 This section explains the sources of the financial information included in the profitability model.

15 For 2020, we used the profit and loss account and balance sheet information contained in Airwave Solutions' statutory accounts.[440]

16 For 2021 to 2026, we used the financial information contained in a detailed template profit and loss account provided by Motorola,[441] together with detailed schedules on revenues, cost of sales, staffing costs, operating expenses, capex, depreciation, and decommissioning and redundancy costs. We also collected financial information in various RFIs over the course of the investigation, which we used in our analysis.

17 For 2027 to 2029 (see section 6, paragraph 6.62), we used the financial information from 2021 to 2026 and inflated the 2026 revenues and costs at

[438] Note that the working capital adjustments contained in both models are sourced from the August Model and not adjusted to take account of the scope (see paragraph 18 onwards). We noted that the figures in this case were relatively small and so any change required was unlikely to have a material impact on the results of our analysis.
[439] 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.
[440] Airwave Solutions annual report and accounts, year ended 31 December 2020, found at Companies House.
[441] Motorola response to Q20 of the RFI dated 16 December 2021. [✂]

2% per year, in line with Motorola's approach for the 2021 to 2026 period (see paragraphs 21 to 26).

Adjustments made to profit and loss information

Scope

18 We needed to make sure that the revenues and costs contained in the starting operating profit figure only related to the provision of Airwave Network services, relevant ancillary services and nothing else. Pronto and CCCRS, although contained in Airwave Solutions' accounts, did not relate to the provision of Airwave Network services and thus all of the revenues and costs for these services needed to be excluded.[442]

19 Motorola confirmed that the profit and loss account it had provided[443] included revenues and costs relating to the two services, and provided a separate table which identified revenues and costs for these services. We removed revenues and costs relating to these services, as these did not relate to the provision of the Airwave Network.

20 We included revenues and costs relating to all other services included in Airwave Solutions' accounts for the reasons set out in section 6.

Inflation

21 Motorola had inflated its revenues and most of its costs at [✂]% for 2022 and at [✂]% for the period from 2023 to 2026.[444]

22 With respect to revenues, we noted that the contractual position contained in the PFI Agreement was that revenues increased in line with [✂]. The Home Office told us that, [✂], Airwave Solutions had requested to [✂]. In response to this request, the Home Office notified Airwave Solutions of its intention to [✂]. The effect of this is that [✂].

23 With respect to costs, we considered that these would increase in line with CPI (not RPI).

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[442] Similarly, there are assets on Airwave Solutions' balance sheet relating to these two services. We have not made an adjustment to the opening and closing values of assets as our valuation relates only to the Airwave Network (see Appendix I and paragraphs 6.63 – 6.103 of section 6 of our report).
[443] Motorola response to Q9 of the financial RFI dated 16 December 2021. [✂]
[444] The exceptions to the inflation figures quoted related to: 1. power (included in site costs) at [✂]% for 2022 and 2023, and 2. management charges and amortization which were flat on 2021 figures.

24 In our published working paper 'Profitability modelling and results',[445] we set out the Bank of England's CPI forecast for February 2022 together with the difference between RPI and CPI (known as the RPI-CPI inflation wedge) in order to set out the RPI forecast. The Home Office told us[446] that there was a higher short-term wedge between RPI and CPI implied by the latest actual inflation rates and OBR forecasts,[447] and that given Motorola's revenues were linked to RPI and costs would grow in line with CPI, the CMA's assumed wedge of 1% between RPI and CPI would lead to an underestimation of profitability. The Home Office suggested that, given that future inflation and the RPI-CPI wedge were uncertain, the CMA should estimate Airwave's profitability under a range of scenarios and test the sensitivity of the results.

25 In line with Motorola's forecasts for previous years, we inflated revenues and costs for 2027 to 2029 by 2% each year.

26 We considered making adjustments to Motorola's inflated revenues and costs, and we considered estimating profitability under a range of scenarios and testing the sensitivity of the results, using the latest actual inflation rates, noting the increase in inflation rates in 2022. However, we considered that future inflation and the RPI-CPI wedge were uncertain, and using the latest actual inflation rates would make a small difference to the overall profit and cashflow figures in the context of the significant supernormal returns that our analysis already showed. We therefore decided that making such adjustments would provide no further insight. In designing the charge control, we considered this issue further.

Revenues

27 Motorola made certain assumptions for revenues (in addition to the assumptions on inflation which were discussed above):

(a) 'Ambulance bundle 2 is reduced by 50% in 2023 and 100% in 2024 as new providers go-live on their delivery'

(b) 'Menu services reduce by 5% from 2023 onwards as customers transition over to ESN'

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[445] Profitability modelling and results working paper, 6 May 2022.
[446] Home Office's submission and response to working papers, 24 May 2022, paragraph 45.
[447] Latest actual inflation rates: year-average CPI of 2.6% and RPI of 4.0% in 2021; latest April 2022 12-month change of CPI of 9.0% and RPI of 11.1%; OBR forecasts: CPI of 7.4% and RPI of 9.8% for 2022.

(c) ‘Interoperability contract continues in 2023-2026’[448]

Ambulance Bundle 2

28 The Home Office told us that the Ambulance Bundle contract was extended by 12 months to 31 December 2023 on 22 December 2022. As a result, the Home Office recommended adjusting the assumption that Ambulance Bundle 2 revenues will reduce by 50% in 2023 and 100% in 2024 to an assumption that they would reduce by 50% in 2024.[449]

29 We noted this uncertainty over the expected length of the Ambulance Bundle 2 contract, as well as the discussion set out in Section 6 (paragraphs 6.24 to 6.44), regarding whether this activity should be included in our profitability analysis. While we have included Ambulance Bundle 2, we have not sought to adjust Motorola’s forecast revenues due to both the uncertainty over the actual length of this contract and the fact that it is unlikely to make a material difference to the results of our analysis. Therefore, we made no further adjustments to Motorola’s forecasts in this respect.

Reduction in menu services

30 For the reduction in menu services from 2023 onwards, we noted that, as it seems likely that the transition will not start until after 2023, and most probably not until after 2026, then this revenue line is likely to be understated in Motorola’s forecasts, particularly in the latter part of the period to 2029. We have not sought to adjust for this difference given the relative immateriality of this adjustment in the context of our profitability analysis. However, we note that making such an adjustment would result in an increase in Airwave’s estimated profits for the 2020 to 2029 period.

Interoperability

31 This is also known as interworking. We noted two different sets of figures for this: in the August Model[450] just over £[✂] million was included per year (on average), but in Airwave’s more recent forecasts this has fallen to

[448] Motorola response to Question 21 of RFI dated 16 December 2021 [✂].
[449] Home Office’s response to the CMA’s Provisional Decision Report, 22 November 2022, paragraph 3.7, and evidence provided by the Home Office on 28 March 2023. [✂]

[450] Motorola provided us with financial forecasts to 2026 and 2029 which it had prepared for internal purposes in June 2021, which we used to create an IRR model. It also provided us with financial forecasts to 2026 in August 2021 in the form of an IRR model, in response to an RFI in August 2021.

£[✂] million per year. We included the figures for interworking for the reasons set out in section 6 (paragraphs 6.24 to 6.44).

Adjusted revenues

32 Table G-1 shows the adjustments we made from the turnover figure contained in Airwave Solutions' statutory accounts/forecasts.[451]

Table G-1: Summary of adjustments to turnover, 2020-2026, £m

	2020	2021	2022	2023	2024	2025	2026
Turnover – Airwave's statutory accounts / forecasts	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Remove out of scope activities:							
Pronto	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
CCCRS	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total activities out of scope	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Turnover of Airwave Network	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: Motorola, CMA calculations

Cost of sales

Depreciation

33 First, we note that any adjustment to depreciation does not affect cashflow as it is a non-cash item. Depreciation is deducted as one of the expenses in a profit and loss account, but added back in a cashflow statement as it is a non-cash item. We note the following for completeness.

34 Motorola set out the depreciation charge in the profit and loss account.[452] The charge in 2026 included a large write-off of all remaining assets (that is, the depreciation charge in 2026 was such that the net book value (NBV) of remaining assets was zero). We added back that charge to reflect the fact that the network is likely to be operational to 2029 and may continue beyond 2029. We followed the same approach, including the same depreciation

[451] All figures in this appendix are nominal unless otherwise stated. We do not include adjustments to turnover during the 2027 to 2029 period as we only asked Motorola to provide profit and loss account figures to 2026.
[452] Motorola includes depreciation in cost of sales (not in operating expenses which is where depreciation is typically expensed). Motorola told us that the statutory accounts were prepared on the basis that everything to do with the network directly (assets, depreciation, maintenance, site rent/power, transmission) was cost of sales ie direct cost of delivering the network. People costs had been included in administrative costs as they supported the delivery of the service from office sites, rather than being located within the physical base station network itself (albeit many people are core to delivering the managed service package). Motorola response to Q40 of the financial RFI dated 16 December 2021. [✂]

charges for the period from 2021 to 2028, and included an adjusted[453] depreciation charge in 2029, such that the NBV of remaining assets as at the end of 2029 was zero.

MSI engineer (maintenance) costs

35 The transfer charge from MSUK to Airwave Solutions in relation to 'MSI field engineers' is set out and discussed in detail in Appendix H Transfer Charges.

36 Included in maintenance cost figures from 2020 to 2029 were cost recharges relating to 'MSI field engineers'. We considered that these amounts may have included a transfer of costs from Motorola to Airwave Solutions which was not reflective of the cost of any increased activity in this area. Therefore, we deducted an annual amount of £[✂] million of maintenance costs across the years 2020 to 2029 to bring these charges back in line with their level in the 2016 to 2019 period.

Operating expenses

All staffing costs

37 Motorola included an additional amount of £[✂] million within staff costs in 2026 (calculated as [✂] times staff costs, inflated from 2025) to allow for paying redundancy upon termination of the network.[454]

38 We discuss redundancy costs in the section on decommissioning and redundancy costs from paragraph 41.

Management charges

39 The management charges shown in the profit and loss information provided by Motorola include the parent company guarantee fee and the strategic support fee, and the transfer charge from Motorola to Airwave Solutions in relation to these two fees is set out and discussed in detail in Appendix H.

40 Motorola included approximately £[✂] million of management charges in 2019 and 2020, and a flat charge of £[✂] million from 2021. We concluded

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[453] The adjustment to depreciation in 2029 was necessary as we included adjusted capex figures. See paragraph 68 onwards. We decided not to reprofile the depreciation charge to take account of the adjusted capex figures across the years 2021-2028 as this was a non-cash item and thus had no impact on the cashflow.
[454] Motorola response to Q20 of the financial RFI dated 16 December 2021 [✂]

that these amounts were likely to have included a transfer of costs from Motorola to Airwave Solutions which was not reflective of arms-length level of charging in this area, and deducted £[✂] million of the management charges in 2020 and an annual amount of £[✂] million across the years 2021 to 2029.

Decommissioning and redundancy costs

41 Motorola included a cash outflow of £[✂] million in the year ended 31 December 2027 in the August Model relating to decommissioning, and redundancy costs of £[✂] million within all staffing costs in the forecast profit and loss account in the year ended 31 December 2026.[455]

42 We needed to take account of the costs necessary to close down the Airwave Network once customers have switched to ESN. We considered two aspects for each of decommissioning costs and redundancy costs: the amounts to include in the model, and the timing of these costs.

Amounts to include in model

Decommissioning costs

43 We asked Motorola[456] to estimate the costs required to decommission the Airwave Network. Motorola provided a review which it had performed in early 2021 for the preparation of statutory accounts for the year ended 31 December 2020 to assess the provision required for its asset retirement obligations. The total estimated cost in Motorola's written table summarising its calculations was £[✂] million. Almost all ([✂]%) of the estimated cost related to base sites and was based on an average of actual costs incurred from actual contractors for decommissioning base sites between 2017 and 2020. The remainder of the costs (relating to other site types) was estimated by the Airwave engineering team. Motorola told us that, although these estimated costs were not broken down separately, the major component would be related to the manpower needed to take out equipment and restore the sites, and other significant costs were for the equipment needed for site access (cranes etc) where required. We noted that no redundancy costs were included in the estimate.

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455 Motorola August Model, Motorola response to Q20 of the financial RFI dated 16 December 2021 [✂]
456 Motorola response to Q35 of the financial RFI dated 16 December 2021. [✂]

44 The amount of £[✂] million shown in Motorola's summary table was described as 'after estimated economies of scale / before discounting'. The example given was the use of existing Airwave staff instead of contractors and potential volume discounts from subcontractors. However, the supporting spreadsheet showed a total of £[✂] million. First, we noted that two of the figures in the summary table (base sites – 3rd party tower and base sites - rooftop) making up this total had been included gross of economies of scale, whereas the other figures had been included net of economies of scale. Second, we noted that the summary table did not include £[✂] which was included in the supporting spreadsheet as a provision for costs to support exit, described as an estimate for project management activity. We decided that this figure for project management activity would most likely already have been included in the staff costs for 2026.

45 To arrive at a figure for decommissioning costs to include in our model, we made two adjustments to the figure provided in the supporting spreadsheet. First, we took account of economies of scale for the two base site line items so that they were consistent with the other items (the majority of which had been adjusted to take account of economies of scale) and then we excluded the £[✂] project management activity so as not to double count staff costs which we considered were already included in the profit and loss account for 2026. The resulting total was £[✂] million.

Redundancy costs

46 Motorola included an additional amount of £[✂] million within staff costs in 2026 (calculated as [✂] times annual staff costs, inflated from 2025) to allow for paying redundancy upon termination of the network.

47 The Home Office told us that it believed this estimate was too high, as it implied a cost of approximately £[✂] per employee.[457] [458]

48 Motorola had told the Home Office[459] that the Airwave Solutions [✂], and noted that Motorola's involvement in the ESN Lot 2 contract was due to

[457] Based on 20% contractor's assumption out of 580 employees. Home Office's submission and response to working papers, 24 May 2022, paragraph 45.
[458] The Home Office also drew the CMA's attention to the increase in Airwave's headcount between 2018 and 2019, from 482 employees to 572 employees, and stated that there did not appear to be any adequate justification of this significant increase in headcount. Home Office submission and response to working papers, May 2022, page 16
[459] Email from Home Office to CMA 12 October 2021 [✂]

expire before the termination of the Airwave network (see section 2, paragraph 2.111).

49 We considered that, although the costs did appear high, Motorola and the Home Office had come to an agreement to terminate the former's involvement in ESN Lot 2, which is likely to materially reduce the scope for Airwave staff to be redeployed within the rest of the business. We did not, therefore, make an adjustment to the amount Motorola had estimated for redundancy costs in 2026 to allow for paying redundancy upon termination of the network.

Timing of costs

Decommissioning costs

50 We noted that Motorola had estimated decommissioning costs in current cash terms and that the supporting spreadsheet spread the decommissioning costs evenly over four years, 2026 to 2029 to reflect the phasing of the decommissioning process; this estimate was made in Q1 2021, [✂]. In Motorola's spreadsheets, the decommissioning costs had been inflated using an inflation rate of [✂]% and then discounted using a discount rate of [✂]%.

51 The Home Office told us[460] that the pricing of the original contract built in the assumption that decommissioning would commence in 2019. This meant that the decommissioning costs (at least partially) had been paid for by the Home Office as part of the original PFI Agreement. Accordingly, these costs were factored into the revenues paid to Airwave, even though Airwave had not paid any of these costs yet. (The only reason that not all decommissioning costs may have been paid for as part of the original PFI Agreement would be if incremental decommissioning costs arise as a result of the extension.)

52 The Home Office explained[461] that the profitability of the original PFI period from 2000 to 2019 would be overstated if there were no adjustment for the cost of decommissioning obligations that accrued within this period; similarly, the extension period profitability would be underestimated if the full charge of the decommissioning costs were solely allocated to this period, even though the cash outflow would occur in 2026. The Home Office suggested that, in

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[460] Home Office's submission and response to working papers, 24 May 2022, paragraph 43.
[461] Home Office's submission and response to working papers, 24 May 2022, paragraph 44.

order to apportion the decommissioning cost between periods, the opening asset value at the beginning of the extension period (and equivalently the closing asset value at the end of the original PFI period) should be adjusted downwards to recognise the fact that the asset base came with a liability to pay decommissioning costs that the Home Office had already paid for in the original PFI period.

53 In our provisional decision, we agreed with the Home Office that the decommissioning costs (at least partially) had been paid for by the Home Office as part of the original PFI Agreement, and that they were factored in, even though Airwave Solutions had not paid any of these costs yet. We considered that an extension was not likely to change decommissioning costs other than by timing of cashflows and the effect of inflation. We considered that, to the extent that there were no incremental decommissioning costs associated with the extension, all the costs should be allocated to the PFI period. If there were incremental decommissioning costs associated with the extension period, these should be allocated to the extension period.

54 In response to our PDR, Motorola told us[462] that including decommissioning costs in the charges set in the PFI Agreement was inconsistent with the view that assets would have transferred to the Home Office or a third party at the end of the contract. It also told us that it made little sense to include the cost of decommissioning a network in 2019 which was considered to be fully functional and working in 2020.

Redundancy costs

55 In our provisional decision, we considered that, as with the decommissioning costs discussed above, the redundancy costs (at least partially) had been paid for by the Home Office as part of the original PFI Agreement even though Airwave Solutions had not paid any of these costs yet. Thus, the timing of the redundancy expense needed to be changed to reflect the fact that those costs would be incurred primarily in relation to the PFI period. We considered that, to the extent that there were no incremental redundancy costs associated with the extension, all the costs should be allocated to the PFI period. If there were incremental redundancy costs associated with the extension period, these should be allocated to the extension period.

[462] Motorola's response to the CMA's Provisional Decision Report – Annex; Supplementary Comments on the CMA's Profitability and Remedies Assessment, 21 November 2022, p17

56 Motorola told us[463] that, similar to the treatment of decommissioning capex, there was no justification for shifting redundancy costs into 2019; there were no redundancy costs in 2019 and including redundancy costs while assuming the operation carried on ‘as is’ from 2020 onwards lacked any rationale.

CMA assessment

57 We considered Motorola’s submissions and re-examined whether the approach of allocating all the decommissioning and redundancy costs to the PFI period was reasonable.

58 We observed that if the Airwave network had closed down at the end of 2019 in line with the original fixed term of the PFI Agreement, Airwave would have borne the costs associated with making staff redundant and decommissioning the network and would have received no further compensation for doing so. This is the situation we reflected in the base case in the PDR.

59 However, we also observed that, in a situation where the Airwave network is still required (as is currently the case), it is not clear whether Airwave should bear these costs or whether the customer, ie the Home Office, should do so in return for the longer use of the Airwave staff and assets.

60 We note that under the terms of the PFI Agreement, the Home Office had the right (at least in theory) to acquire the transferable assets of the network and require staff to be transferred across to allow for the continued operation of the network. There is no discussion of any payments or compensation in relation to avoided redundancy or decommissioning costs.

61 Given this uncertainty, we have taken a conservative approach in our revised analysis, ie one favourable to Airwave, and allocated decommissioning and redundancy costs to the 2020 to 2029 period, and specifically to December 2029. As the Airwave network is decommissioned over the years following 2029, it is likely that the decommissioning and redundancy costs are in fact incurred over the years following 2029 as opposed to all in 2029. We note, however, that our approach of allocating all the costs to December 2029 is favourable to Airwave.

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463 Motorola’s response to the CMA’s Provisional Decision Report – Annex; Supplementary Comments on the CMA’s Profitability and Remedies Assessment, 21 November 2022, p17

62 We therefore included the following in the model:

(a) total decommissioning costs of £[✂] million, inflated using an assumed inflation rate of [✂]%. This resulted in a total cost, in December 2029 terms, of £[✂] million.

(b) redundancy costs of £[✂] million in our model at the end of 2029, inflated using an assumed inflation rate of [✂]%. This resulted in a cost, in December 2029 terms, of £[✂] million.[464]

Adjusted profit and loss account

63 Table G-2 below is a summary of the adjusted profit and loss account for the period from 2020 to 2029.

Table G-2: Adjusted Profit and Loss, 2020-2029, £m

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Turnover	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cost of sales	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Gross profit	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Operating expenses	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Operating profit	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: various Motorola, CMA calculations

64 Table G-3 shows a reconciliation between Motorola's operating profit and the CMA's calculation of operating profit.[465]

Table G-3: Reconciliation between Motorola operating profit and CMA adjusted profit and loss, 2020-2026, £m

	2020	2021	2022	2023	2024	2025	2026
Operating profit (Motorola)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Turnover:							
Remove out of scope activities	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cost of sales:							
Depreciation	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Maintenance ('MSI field engineers')	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Remove out of scope activities	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Operating expenses:							
Management charges	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Remove out of scope activities	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Redundancy costs	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Operating profit (CMA)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: various Motorola, CMA calculations

[464] This figure did not need to be inflated as it was already presented in the P&L in 2026 real terms.
[465] There is no reconciliation to be made for 2027-2029 as we only asked Motorola to provide profit and loss account figures to 2026.

Adjustments made to arrive at cashflow

65 We made adjustments to the adjusted profit and loss to arrive at cashflow. The adjustments were adding back depreciation and amortisation (non-cash items), and removing spend on capex.

66 We also needed to add opening and closing values: our discounted cashflow approach requires an estimate of the value of the capital employed by investors at the beginning and end of the relevant period in order to estimate a cash outflow at the beginning of the relevant period and a cash inflow at the end of the relevant period, that is, 1 January 2020 and 31 December 2029.

Depreciation and amortisation

67 Depreciation (and amortisation), as they are non-cash items, must be added back to the profit and loss account. We added back the amounts included in the profit and loss account (see paragraph 33).

Capex

Our capex assessment in the PDR

68 Our PDR assessment included the following main proposals in relation to the capex forecast we should use for the profitability analysis:

(a) Our assessment should be based on Motorola's forecasts of its gross capex requirements, and thus include the mark-ups that Motorola had applied to Airwave Solutions' identified requirements for Motorola-sourced capex inputs.

(b) We should use Motorola's May 2021 forecast as out starting point, and not use its more recent April 2022 forecast, which treated lower than forecast capex in 2021 as justifying an increase in the forecasts of capex in 2023 onwards.

(c) The forecast of Megastream-driven costs to be included in the profitability analysis should be £[✂] million lower than that assumed in the May 2021 forecast, to align with Motorola's view of the costs of one of the two options it had identified as preferred in an internal presentation from May 2021 ('Full IP – Mixed base stations'). This proposed adjustment reflected that the May 2021 forecast had assumed higher Megastream-driven costs associated with an option Motorola had not identified as preferred in that internal presentation.

(d) The capex risk provision (which applied a [✂]% uplift to most estimated costs) should not be included in the forecast we use in the profitability analysis, given concerns – among other things – over the extent to which its use could result in double-counting. This resulted in a £28 million reduction to Motorola's figures over the 2023-29 period.

69 These issues are considered in turn below, before we set out our overall conclusion on the capex levels to be used in the profitability analysis.

Transfer charging and the assessment of capex forecasts

Parties' submissions in response to the PDR

70 Motorola did not comment on our proposal to use its gross capex forecasts.

71 The Home Office submitted that even if the evidence was not considered particularly robust, there was no reason to believe that transfer charges for equipment had been truly estimated on an arms-length basis when the majority of other transfer charges analysed by the CMA were found to have been overstated.[466]

Assessment

72 As is set out in Appendix H, Motorola provided us with schedules of capital expenditure forecasts for Airwave Solutions that include both a net cost and a gross cost in relation to items labelled 'MSI Equipment and Labour', where the gross cost figures included mark-ups between [1.00 to 1.50] [✂] and [4.00 to 5.00] [✂] times the net cost.[467] In line with our provisional assessment in the PDR (and as set out in Appendix H), our view is that the available evidence related to transfer charging does not allow us to assess robustly whether the prices charged to Airwave Solutions for Motorola capital equipment and labour can be considered to be arm's length,[468] and – unlike for the other transfer charging areas we have considered – we have not, therefore, been able to reach a specific conclusion on what we consider the level of charges (for Motorola-sourced capex inputs) should be.[469] In line with that assessment, the capex forecasts used in our profitability analysis include the gross cost levels that Motorola identified and thus use the mark-ups that Motorola has applied to Motorola-sourced capex inputs. However,

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[466] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 4.4.
[467] Appendix H, paragraph 11.
[468] Appendix H, paragraph 110.
[469] Appendix H, paragraph 114.

as is noted in Appendix H, the average mark-ups charged by Motorola to Airwave Solutions on capital equipment (which average [250 to 300] [✂]%) are materially higher than the average mark-up charged on sales of such equipment across the Motorola Group as a whole in 2021 (which average [150-200] [✂]%).[470] Given this, our view is that the approach we have adopted of using Motorola's forecasts of gross costs to assess capex requirements is a conservative one (ie it is favourable to Airwave Solutions).

The selection of a capex forecast to use as a starting point

Parties' submissions in response to the PDR

73 Motorola said that its May 2021 forecast had been prepared without knowing in full the implications of COVID restrictions and supply chain issues on the ability to complete the planned 2021 upgrades.[471] It said that the lower 2021 actuals were reflected in higher 2022 and 2023 forecasts, with the difference then [✂].[472]

74 The Home Office said it agreed with putting more weight on the May 2021 forecast than the April 2022 forecast, as the latter had been prepared during this investigation.[473]

Motorola's January 2023 forecast

75 In January 2023, we asked Motorola to provide an updated view of its capex forecast, and to identify and explain the basis for changes relative to its May 2021 and April 2022 forecasts. Motorola said that it does not [✂], and that since its acquisition of Airwave Solutions, such long-range planning had only been carried out twice: first in the context of the change in the national shutdown target date to 2022, and then to prepare for engagement with the Home Office in 2021, with the latter resulting in the development of the May 2021 forecast.[474] Motorola said that the April 2022 forecast had fundamentally assumed that [✂].[475] Motorola said that creating a full refresh

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[470] Appendix H, paragraph 110.
[471] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 18.
[472] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 18.
[473] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 3.11.
[474] Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 3.
[475] Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 3.

of a snapshot such as the May 2021 forecast would be a lengthy exercise that could not be carried out within a few days.[476]

76 Motorola said that, given this, it had had adopted a three-stage approach to developing a new forecast:[477]

(a) updating the April 2022 numbers with 2022 actuals and 2023 budget planning;

(b) reprofiling the capex forecast over 2024-26, assuming that the changes in 2022 and 2023 had no impact on the overall expenditure in the period until 2026; and then

(c) overlaying additional spend based on analysis of 'the "big ticket" items that need to be addressed' in order to enable the extended run life compared with 'a service end in or before 2029 assumed in the May 2021 forecast'.

Assessment

77 For the reasons set out below, we decided to use the May 2021 forecast of capex to 2029, updated by the April 2022 forecast for the years it includes (ie 2023-26).

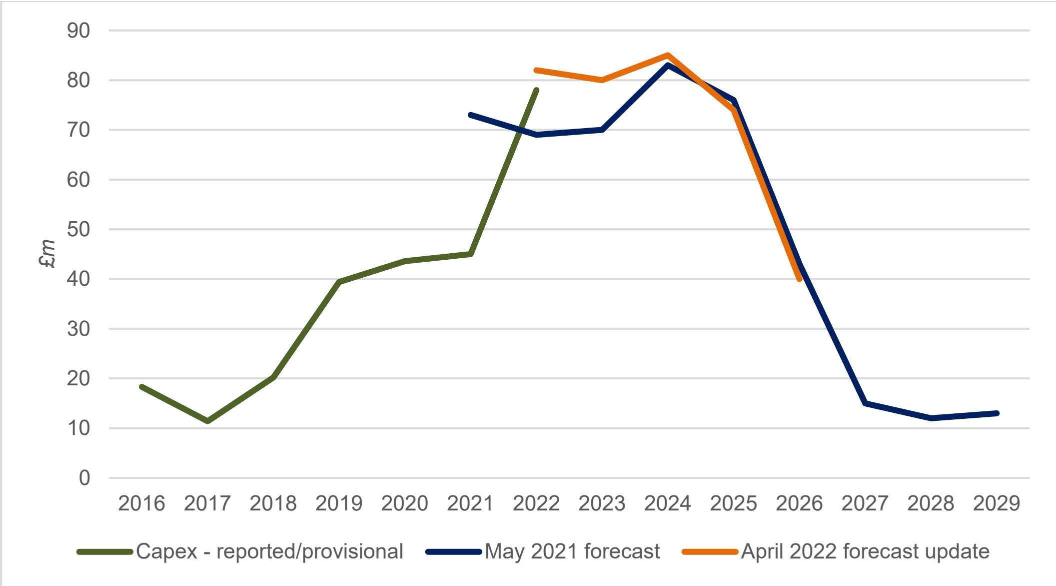
The May 2021 and April 2022 forecasts

78 Figure G-1 shows Airwave Solutions' reported (and, for 2022, provisional) capex compared to the May 2021 and April 2022 forecasts. In the PDR, we noted that Motorola was forecasting a significant increase in capex levels relative to levels that had been observed since 2016, but that its assessment of actual capex in 2021 (£[✂] million) was £[✂] million (around [✂]%) lower than the level included in the May 2021 forecast. While we had regard to Motorola's comments on supply chain shortages it experienced, we noted that evidence of actual capex for 2021 being materially lower than the level Motorola had forecast almost halfway through 2021 could also be viewed as casting doubt on the reliability of the level of capex requirement that had been forecast and raising questions over the extent to which that forecast should be viewed as having been unreasonably high. Our provisional view was that the observation of materially lower than forecast capex in 2021 should not be treated as justifying an increase in forecasts of capex in 2023

[476] Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 3.
[477] Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 3.

onwards to include in the profitability analysis, and therefore we used the May 2021 rather than the April 2022 forecast.

Figure G-1: Airwave Solutions' reported and forecast capex, 2016-29 (£million)

79 

Source: Data from Airwave Solutions' statutory accounts, and Motorola's responses to: RFI dated 16 December 2021, question 26 [✂]; RFI dated 8 April 2022, questions 5 [✂] and 14. [✂].; RFI dated 16 January 2023, Annex A1, question 3.

80 We note Motorola's submissions on the relevance of COVID restrictions and supply chain issues, and also – importantly – that Motorola identified capex as having increased significantly in 2022, to £[✂] million, which is £[✂] million higher than the level included in the May 2021 forecast. While the 2022 figures falls short of the level included in the April 2022 forecast (by around £[✂] million), we consider it to provide support for the relevance of that forecast. In the light of this evidence, we have concluded that it would be more appropriate to use the May 2021 forecast as updated by the April 2022 forecast (for the years it includes: ie 2023-26), rather than to focus only on the May 2021 forecast (as we did in the PDR). This increases the overall level of capex included in the forecast over the 2023-2029 period by around £[✂] million relative to the assumption adopted in the PDR.

Motorola's January 2023 forecast

81 Figure G-2 shows the May 2021 forecast updated using the April 2022 forecast, together with Motorola's January 2023 forecast.[478] We note that the January 2023 forecast identifies capex requirements over the 2023-29

[478] Provided in Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 3.

period as being around a [✂] (£[✂] million) higher than that identified under the May 2021 forecast, with the April 2022 update. Most of that difference relates to the 2027-29 period over which Motorola is now identifying capex requirements that are three times the level included in the May 2021 forecast.

Figure G-2: Comparison between capex forecasts for Airwave Solutions (£million)

[✂]

Source: Data from Motorola's responses to: RFI dated 8 April 2022, questions 5 [✂] and 14. [✂]; RFI dated 16 January 2023, Annex A1, question 3.
Note: For 'May 2021 forecast with April 2022 updates', the April 2022 forecast (which only extends to 2026) is used for 2023 to 2026, with the May 2021 forecast used for 2027 to 2029.

82 When assessing the weight to attach to different capex forecast evidence submitted by Motorola, we have considered the context and purpose of the evidence submitted. As was noted in the PDR, Motorola may face limited incentives to identify potentially more efficient capex options when presenting forecasts either to the Home Office as part of its ongoing engagement on the operation of the Airwave Network, or to the CMA as part of this investigation. That is:

(a) Motorola's provision of capex forecasts to the Home Office could have some bearing on Home Office perceptions of the value for money associated with the ongoing provision of Airwave Network services at different charge levels. For example, the presentation of feasible lower cost options would tend to exacerbate Home Office concerns over the appropriateness of current charge levels, other things equal.

(b) We have also considered the weight that should be placed on Motorola's capex forecasts provided during the course of this investigation. We note that firms may have incentives to overstate, or be unduly conservative when identifying, future cost requirements during an investigation, as that may reduce identified profitability and could potentially influence how a remedy is applied.

83 While the April 2022 forecast was produced during this investigation, we note that it was at a relatively early stage, and – as highlighted above – included only relatively limited adjustments to May 2021 forecast, which was produced before the investigation began. By contrast, the January 2023 forecast was produced at a late stage in this investigation – three months after we had published our provisional decision – and is substantially different to Motorola's earlier forecasts, in particular in relation to the 2027-29 period.

84 Our assessment is that we should not use the January 2023 forecast as the starting point for arriving at appropriate capex levels to include in our profitability analysis. In arriving at this view, in addition to the points above, we have taken account of a number of matters. We note that the January 2023 forecast includes a significant amount of capex (£[✂] million) that Motorola has identified as required if the Airwave Network were needed to operate beyond the end of 2029.[479] While we recognise that may be a possibility, we do not consider it appropriate to include this within the base case for our profitability analysis.

85 Also, we found a number of reasons to question the likely reliability of the forecast, including because of some material double-counting concerns. We note, for example, that:

- Capex associated with the provision of a new interworking interface is included in the forecasts (and on the basis of gross costs),[480] even though that requirement is being paid for separately by the Home Office through the Interface Agreement (where Motorola has pointed to its pricing as having been based on net costs).
- The forecast includes an allowance of £[✂] million for the [✂],[481] but at the same time Motorola has emphasised the pressures for higher charges to continue to use those sites (the payment of which would be an alternative to relocation).

86 We note that Motorola referred to the forecast as having been created in a few days, compared to the lengthy exercise that would be involved in carrying out a full refresh of a snapshot such as the May 2021 forecast.[482] Our judgement is that we should not use the January 2023 forecast as the starting point for our capex assessment, and should instead prefer the May 2021 forecast, as updated by the April 2022 forecast. We considered whether the January 2023 forecast nevertheless implied that it would be appropriate to make some adjustments to that starting point, for example to take account of the adjustments Motorola referred to as re-profiling. However, we do not consider Motorola to have shown why those adjustments should be treated as appropriate and note that they went beyond the reprofiling of a fixed amount over time, and involved some capex additions, including in relation to the provision of a new interworking

[479] CMA calculation based on Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 3.
[480] Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 3.
[481] Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 3(e).
[482] Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 3.

interface, which – as noted above – raises material double-counting concerns.

Megastream and base station upgrades

Parties' submissions in response to the PDR

87 Motorola submitted that a difference in cost figures referred to in the PDR could be explained by the net view having been used for internal discussions and a gross view having been presented in documents for external use.[483] Motorola submitted that the CMA was simply wrong to remove the costs of replacing the full base station estate, and that a refresh of some, if not all, base stations would become necessary if the network needed to run beyond 2027 in any case.[484] Motorola said it was worrying that the CMA appeared to be happy to set aside operational decisions that had been made, and need to be made on an ongoing basis, in full view of the risks and opportunities, and to replace it with its own assumptions based on its understanding and interpretation of materials that had been prepared for internal decision making.[485] Motorola said the CMA was wrong to use the 'Full IP – Mixed base stations' option that was discussed in May 2021, and that the option had been pursued to the next level with a potential vendor but closed down after it became apparent that it would be too risky to be a viable option.[486]

88 The Home Office did not comment on the proposed adjustment to the assumed level of Megastream-driven costs.

Assessment

89 BT's planned retirement of its Megastream product (which provides communications services using legacy technology) has wide-ranging implications for the Airwave Network, and Megastream-driven capex accounts for around [✂] per cent of the capex forecast from 2023 to 2029, when Megastream-driven base station capex is taken into account. We noted in the PDR that Motorola had told us that the only assured solution to

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[483] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 19. Motorola's comment was made in relation to paragraph 84 of Appendix K in the PDR, but was not specific about which cost difference it was intended to refer to.

[484] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 19.

[485] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 20.

[486] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 20.

addressing it would be to deliver what it has referred to as ‘FULL IP TRANSMISSION. NATIVE MTS’, by:[487]

- Migrating transmission fully to ethernet; and,
- Replacing all remaining ‘Generation 1’ base stations, as they do not support Ethernet/IP.

90 The May 2021 capex forecast included £[✂] million between 2023 and 2026 as Motorola’s estimate of the costs of adopting this ‘FULL IP TRANSMISSION. NATIVE MTS’ approach, with £[✂] million identified as related to transmission replacement and transition, and £[✂] million related to Megastream-driven base station upgrades.[488] The April 2022 forecast assumed the same approach was adopted, but included £[✂] million associated with transmission replacement and transition.[489] However, in the PDR, we noted that Motorola’s internal assessments of how Megastream retirement could be addressed had identified three additional potential options alongside full IP migration, at materially lower cost. Figure G-3 shows a summary slide for an internal Motorola presentation prepared in the ordinary course of business dated 11 May 2021, which sets out Motorola’s analysis of these potential options and its views on associated forecast capex implications at that time.

Figure G-3: 11 May 2021 internal slide showing Motorola’s summary of options to address Megastream retirement

[✂]

Source: Motorola internal presentation dated 11 May 2021. [✂]

91 In the PDR we noted that the three alternatives to FULL IP TRANSMISSION. NATIVE MTS shown in Figure G-2 assume the potential for using different emulation or conversion approaches, with those approaches limiting – to some extent – the need for technology transition by allowing technology interoperability to be achieved across the network without full IP migration. The first two options assume the continued availability of [✂] emulation services in order to do this, with the second option involving less reliance on such services (and a greater degree of IP transition). The third option assumes a transition to full IP transmission, but does not assume that all remaining base stations are upgraded. Instead, it assumes that a

487 Motorola response to RFI dated 8 April 2022, question 9. [✂]
488 Motorola’s response to RFI dated 8 April 2022, question 14 [✂]
489 Motorola’s response to CMA RFI dated 16 January 2023, Annex A1, question 4.

conversion/interworking solution can be used at the remaining legacy (ie not upgraded) base stations to provide for interoperability.

92 The Megastream adjustment we proposed in the PDR (which involved deducting £57 million from the May 2021 forecast) was based on assuming that instead of including a cost estimate associated with FULL IP TRANSMISSION. NATIVE MTS, Motorola's cost estimate for the FULL IP TRANSMISSION. MIXED BASE STATION option should be included. That was the higher cost of the two intermediate options that, in the presentation, Motorola had identified as in 'THE ZONE', and the capex estimate was £57m lower because it was assumed that there would not need to be Megastream-driven base station upgrades over and above Airwave Solutions' ongoing base station upgrade programme.

93 With respect to Motorola's submissions on the Megastream adjustment proposed in the PDR, we note the following:

(a) The net vs gross cost issue that Motorola referred to has no bearing on the PDR proposal. It provides an explanation as to why the cost estimate shown in Figure [G-2] associated with the FULL IP TRANSMISSION. NATIVE MTS option is lower than the amount included in the May 2021 and April 2022 forecasts,[490] but the PDR proposal was based on the May 2021 forecast, not on the lower figure in the slide.

(b) While Motorola submitted in its response to the PDR that we were 'simply wrong' to remove the costs of replacing the full base station estate from the capex forecast, in response to a subsequent RFI, Motorola confirmed that we were correct in our understanding that not all of the base stations may need to be refreshed in order to address Megastream retirement.[491] Motorola said that the slide shown as Figure G-3 'indicated that the recommended (likely) direction of travel for resolving Megastream was within the 'Green Zone' and the two solutions within there are the ones that received the attention in the months that followed'.[492]

(c) While Motorola provided evidence to support its submission that the FULL IP TRANSMISSION. MIXED BASE STATION approach had

[490] This assessment is based on Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 4(d).
[491] Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 6(c).
[492] Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 6(c).

been closed down as a viable option,[493] it confirmed that the strategy it is progressing is the other intermediate option shown on the slide as in 'THE ZONE': 'TDM/IP mix'.[494] Motorola said that: 'currently there is no activity related to planning any solutions other than the "TDM/IP" solution'.[495]

(d) We consider Motorola's submission that it was worrying that the CMA appeared happy to set aside operational decisions that Motorola had made, to be based on mistaken view of what our assessment was and is intended to do. Our assessment is not concerned with what operational decisions should or should not be taken: that is a matter for Motorola. Rather, our assessment is concerned with identifying a reasonable estimate of the costs Motorola can be expected to face while taking relevant operational decisions. In line with that, while the specific option that was used to underpin the proposed Megastream adjustment to the capex forecast used in the PDR has been shown to no longer be something that Motorola is progressing, we nevertheless consider the scale of the Megastream adjustment identified in the PDR to be reasonable, as it provides for a conservative reading of Motorola's view of the difference between the costs of the TDM/IP approach that Motorola is proceeding with and the level of capex included in the May 2021 and April 2022 forecasts in relation to Megastream.

94 In line with the above point, our view is that our capex forecast starting point (ie the May 2021 forecast updated by the April 2022 forecast) should be adjusted to remove £57m to reflect lower expected Megastream related costs than had been assumed in that forecast.

Capex risk provision

Parties' submissions in response to the PDR

Motorola views

95 Motorola said that the removal of the capex risk provision was entirely inappropriate, and that the numbers from the May 2021 forecast do not fully capture all of the risks (and pointed to the fact that the uplift is only applied to

[493] Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 6(a).
[494] Motorola's response to CMA RFI dated 16 January 2023, Annex A1, questions 3 and 6(c).
[495] Motorola's response to CMA RFI dated 16 January 2023, Annex A1, question 6(d).

[✂] of forecast capex levels in support of this).[496] Motorola said that the risk provision properly reflects risks that are not covered in the individual capex forecasts (and cannot be covered given the time periods involved). In other words, the inclusion of a buffer was entirely appropriate, not least given the requirements on the robustness and reliability of the services.[497] Motorola said there were many examples of capex requirements that became apparent only over time, and pointed to the following examples:[498]

- The costs of connecting difficult to reach base stations to fibre: Motorola said that, on current estimations, it would cost around £[✂] million to connect the 120 most difficult to reach base stations to fibre. Motorola said this meant that in the worst-case scenario there would be significant capex in addition to the numbers identified in the May 2021 forecast as required to deal with the retirement of copper connections.

- The contract with NEC for the provision of the microwave network on which Airwave currently relies will end in 2027 and Airwave Solutions expects to have to pay substantially higher charges beyond that date.

- If BT were to terminate the arrangements for the use of its switch sites, this would not only have opex implications but may ultimately require a large-scale data migration.

96 Motorola said that these risks needed to be captured and that this is done through the capex risk provisions.[499] Motorola said the four Excel workbooks referred to in the PDR as showing a [✂]% (rather than [✂]%) risk provision were iterations created within a period of 25 hours and that it would be misleading to portray them as independent instances to support the view that a [✂]% uplift is typically applied.[500]

Home Office views

97 The Home Office said it agreed with the logic that the forecasts provided by Motorola already had a degree of risk built into the projections, and that it

[496] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 21.
[497] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 21.
[498] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 22.
[499] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 23.
[500] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 23.

considered it reasonable to make a downwards adjustment to the capex forecast by the amount of the capex risk provision.[501] The Home Office submitted that the forecasts provided by Motorola must be considered in light of the comparison between its previous forecasts and outturn spend: the Home Office said that, for the years 2018-20, Motorola had forecast that Airwave Solutions would spend £[✂] million of capex, but that its actual spend was £[✂] million.[502]

Assessment

98 In the PDR, we said that while we considered it appropriate to take account of relevant uncertainties when forecasting capex, Motorola's May 2021 forecast could be understood as having included three different types of risk-based adjustments, and that this approach raised material double-counting concerns. We said that:

(a) Motorola's approach to developing its initial capex forecasts for given areas of activity appeared to already include the use of a range of risk-based assumptions when costs were being estimated.[503] We noted that Motorola's approach to forecasting the costs of addressing Megastream retirement had included a range of risk-based assumptions which have the effect of increasing the forecast capex requirements, and that its forecast of base station upgrade costs (other than those driven by Megastream retirement) had been presented as based on [✂].[504] That is, this cost estimate appeared to already include a [✂] per cent uplift to take account of the potential for the cost per site of upgrading additional base stations being higher than that associated with the existing base stage upgrade work. We noted that these assumptions could be understood as effectively already providing for some degree of 'aiming up', ahead of the application of the broader [✂] per cent uplift as a capex risk provision.

(b) For some areas of activity, specific risk-based uplifts had been applied to Motorola's initial forecast of capex requirement (ahead of the inclusion of the broader [✂] per cent capex risk provision). We highlighted that Motorola's estimate of 'Microwave Access Transmission Replacement' capex requirements already included

[501] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 3.12.
[502] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 3.12.
[503] For example, Motorola response to RFI dated 8 April 2022, question 14(a) [✂].
[504] Internal Motorola presentation, 11 May 2021 [✂].

project-specific risk provisions totalling £[✂] million ahead of the application of the broader [✂] per cent uplift as a capex risk provision.

(c) Motorola's broader [✂] per cent capex risk provision had been applied to ([✂] of) [505] the forecast capex after the provisions for risk referred to in (a) and (b) had already been made.

99 In its response to our PDR, Motorola did not address these double-counting concerns, or the specific examples referred to above as to why they might arise.

100 In the PDR, we also said that given the scale of the capex programme Motorola had identified as required, consideration should be given to the extent to which a forecasting approach of the kind used by Motorola – which involved summing separate cost estimates across a range of project areas – might tend to overstate likely requirements, for example by taking insufficient account of likely opportunities for economies of scale and scope in project delivery. In line with this, we noted the potential for Motorola's approach to estimating capex requirements to result in forecast levels of capex that were unduly high even before its capex risk uplift of [✂] per cent had been applied. We noted that some of the capex spreadsheets Motorola provided us with in response to a request for information included a separate line after the forecast level of total capex which was shown referred to as: '[✂]', before showing figures that were [✂] per cent of the total level of capex that had been identified.[506] We said that this appeared to imply that a realistic view of capex requirements may be somewhat lower than identified levels of total capex before the capex risk uplift of [✂] per cent had been applied.

101 Motorola did not address this point in its response to our PDR. When we asked what was meant by [✂] at its response hearing, Motorola said that what this was trying to explain is that:

> …if you had a preferred choice, the maximum investment that you would need to do is what's in the LRP ROM [Long Range Plan Rough Order of Magnitude]. If you then chose to do the minimum that was viable, that would be…" [✂]".[507]

[505] As noted in the PDR, Motorola told us that the risk provision was not applied to well understood spend areas (such as more general continuity capex) for which it had longer-term trends to inform its estimations (Motorola response to RFI dated 8 April 2022, question 10. [✂]).
[506] For example, Motorola response to RFI dated 8 April 2022, question 14(a). [✂]
[507] Motorola Response hearing with the CMA on 10 January 2023. [✂]

102 When we put it to Motorola that this suggested its forecasts use the maximum figure referred to above, Motorola said that the figures are rough orders of magnitude, that may go up or down following more detailed planning.[508] While we recognise this point, and note the examples in Motorola'a pointed to in its response to the PDR of additional capex requirements that may only become apparent over time,[509] we consider Motorola's description of its approach to capex forecasting to suggest its forecasts may include significant 'aiming up', including through the [✂] per cent capex risk provision.

103 However, having considered the submissions and evidence provided in response to the PDR, we have concluded that the inclusion of a capex risk provision would be an appropriate way of taking uncertainties over capex requirements into account. In forming this view, and therefore deciding not to take the approach proposed in the PDR, we have taken account of the range of different risks related to drivers of capex requirements that Motorola has identified during this investigation, including in the explanation of its January 2023 forecast.[510] We have also taken account of the fact that the Megastream adjustment (see paragraphs 87 to 94 above) can be expected to have mitigated double-counting risks of the kind highlighted in the PDR to some extent.

104 We considered whether it would be appropriate to include a capex risk provision, but for it to be set at a level that differed from that which Motorola included in its May 2021 and April 2022 forecasts (for example, by assuming a different percentage).[511] However, we have not identified a reason for preferring a different level of capex risk provision, and given this, our view is that no adjustment should be made to Motorola's May 2021 or April 2022 capex forecasts in relation to the capex risk provision.

Summary of our view on capex allowances

105 Table G-8 shows the forecast capex that we have concluded should be included in the profitability analysis.

[508] Motorola Response hearing with the CMA on 10 January 2023. [✂].
[509] See paragraph 96.
[510] Motorola's response to CMA RFI dated 16 January 2023, question 3.
[511] The PDR noted Motorola's use of a 10% uplift in relation to a different capex forecast.

Table G-8: Capex to include in profitability model, 2020 to 2029, £m

											£million
	2020	*2021*	*2022*	*2023*	*2024*	*2025*	*2026*	*2027*	*2028*	*2029*	*2020-2029*
Actual/ forecast capex	[✂]	[✂]	[✂]	70	65	54	34	15	12	13	[✂]

Source: CMA analysis

Value of assets as at beginning 2020 and as at end 2029

106 As set out in section 6, an estimate of an IRR requires an estimate of the value of the capital employed by investors at the beginning and end of the relevant periods in order to estimate a cash outflow at the beginning of the relevant period and a cash inflow at the end of the relevant period.

Opening value as at beginning 2020

107 Section 6 and Appendix I contain our detailed consideration of the appropriate application of the value to the business (VTB) principles to estimate the value of the Airwave Network's assets as at the beginning of 2020. Our conclusion is that the Airwave Network's assets should be valued at their value-in-use in a well-functioning market. We consider this value would comprise the residual value of the Airwave network's assets invested in 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.

108 This value at the end of the PFI period, in 2019/20, is between £[✂]million (as discussed in Appendix I). We included the upper end of this range as our base case. However, we also considered the scenario in which the appropriate value of the network's assets is the fair market value of the assets as assessed by Deloitte in its 2016 report for Motorola (adjusted for subsequent capex and further obsolescence of the asset base between 2016 and 2019), ie £[✂] million.

109 We deducted net current liabilities of £[✂] million from our estimate of the opening asset valuation,[512] which results in an opening asset value of £[✂] million in our base case. In the scenario in which the value of the network's assets is £[✂] million, this results in an opening asset value (equivalent to a cash outflow) of £[✂] million.

[512] Being net operating assets as at end 2019, sourced from Motorola's August Model.

Closing value as at end 2029

110 We needed a value of the capital employed by investors as at 31 December 2029 in order to estimate a cashflow at the end of the relevant period.

111 Section 6 and Appendix I contain our detailed consideration of the appropriate application of the VTB principles to estimate the value of the Airwave Network's assets as at the end of 2029 and the evidence we considered. Our conclusion is that the Airwave Network's assets should be valued at their net realisable value (NRV) as opposed to their replacement cost or their value-in-use, consistent with an assumption that the network will not be used after 2029.[513]

112 We decided to use the residual value of £[✂] million as estimated by Motorola, and deducted net current liabilities of £[✂] million to this closing asset valuation. This results in a negative closing asset value (equivalent to a cash outflow) of £[✂] million.

Profitability model calculations – assumption on discount factor

113 Finally, we needed a factor in order to discount the nominal cashflows to a present value of cashflows as at the beginning of 2020. As set out in Appendix J on the Cost of Capital, we used an estimated cost of capital for the extension period of 8.8% which was the upper end of our range. We also considered a scenario in which the cost of capital was 14.25%, being 6.25% (the mid-point of our range, of 3.7% to 8.8%) plus 8% (Deloitte's estimated uplift) to reflect revenue uncertainty under the post-PFI terms agreed between Motorola and the Home Office.

Profitability model results

114 We set out the calculations to arrive at the profitability model results in Table G-9.

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[513] We note that this assumption may not be accurate. However, if the network were required beyond 2029, this would be likely to increase the returns estimated through our profitability analysis.

Table G-9: Summary profitability model calculations 2020-2029, £m

	opening lump sums											closing lump sums
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2029
Revenues		[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	
Net margin % of revenues		[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	
		[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	
Operating profit/(loss)		[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	
Add Depreciation		[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	
Add Amortization		[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	
Funds generated by operations		[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	
Capex and residual value	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Decommissioning costs												[✂]
Redundancy costs												[✂]
Working capital adjustment	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]			[✂]
Net cash flows	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cumulative net cash flows	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Discount factor	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Discounted cash flows	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cumulative discounted cash flows	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA calculations based on Motorola data

115 We set out the results for the base case, based on an opening asset value of £[✂] million, and a scenario in which the opening asset value is £[✂] million, in Table G-10, for two different costs of capital as set out at paragraph 113, 8.8% and 14.25%.

Table G-10: profitability model results 2020-2029, % / £bn

Results	**WACC Base case**	**WACC Sensitivity**
£80m asset value		
NPV	£1.272bn	£1.001bn
IRR	629%	
£184m asset value		
NPV	£1.168bn	£0.897bn
IRR	142%	

Source: CMA calculations based on Motorola data

116 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 equivalent to charging almost £200 million per year more than we would expect to see in a well-functioning market.[514]

[514] 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.

Profitability model 2001-2019

Sources of financial information

117 Motorola's August Model contained certain adjustments to the profit and loss account of the statutory accounts for the years 2016 to 2020. Motorola told us that it had done this in order to provide a true view of Airwave Solutions' financial statements as a standalone company. These adjustments were to turnover, depreciation, cost of sales relating to transfer charges from Motorola in respect of engineers and R&D, administrative expenses relating to stock compensation, and administrative expenses in relation to an MSI guarantee and support fee.

118 We decided to use the financial information contained in the statutory accounts and did not make the adjustments processed by Motorola, for the reasons set out in Appendix H, Transfer charges.

Adjustments made to profit and loss information

Scope

119 We needed to make sure that the revenues and costs contained in the starting operating profit figure only related to the provision of Airwave Network services and nothing else. Pronto and CCCRS, although contained in Airwave Solutions' accounts, did not relate to the provision of Airwave Network services and thus the revenues and costs relating to these activities should be excluded. However, we only had revenue and costs relating to the two activities above going back to 2018, and limited balance sheet information. We considered that the two activities above did not exist for a large proportion of Airwave Solutions' existence from incorporation to 2019, and that any adjustment would not have a material impact on the results of our analysis. We therefore decided not to make any adjustment to the figures in the Statutory Accounts. We note that not excluding the activities out of scope (to the extent that those activities existed and were profitable) may overstate the operating profit figure.

Acquisition charges in 2016

120 There was a charge of £[✂] million to the profit and loss account in 2016 relating to the acquisition of Airwave Solutions by Motorola. We considered that this did not relate to the operation of the Airwave Network and therefore removed it.

Management charges in 2019

121 As set out in paragraph 40, Motorola included approximately £[✂] million of management charges in 2019. We concluded that these amounts were likely to have

included a transfer of costs from Motorola to Airwave Solutions which was not reflective of arms-length level of charging in this area, and deducted £20m of the management charges in this year.

Adjustments made to arrive at cashflow

122 As set out in paragraphs 57 to 58, we made adjustments to the profit and loss account to arrive at cashflow. The adjustments were adding back depreciation and amortisation (non-cash items), and removing spend on capex. The amounts we used for those adjustments were those contained in the statutory accounts.

Opening and closing values

123 We also needed to add opening and closing values. As set out at paragraph 107 above, an estimate of an IRR requires an estimate of the value of the capital employed by investors at the beginning and end of the relevant period in order to estimate a cash outflow at the beginning of the relevant period and a cash inflow at the end of the relevant period.

Opening value as at beginning 2001

124 Airwave Solutions started operations in 2001 and thus had no value at the beginning of 2001, so we included a value of £0m.

Closing value as at end 2019

125 The value as at end 2019 is the same as the opening value at the beginning of 2020, which we discuss from paragraph 94 onwards and in detail in Appendix I. Our review of the available evidence suggests a value of Airwave’s assets of £[✂] million as at the end of 2019 which we included as our base case. We also considered the scenario in which the value of the network’s assets is £[✂] million. We made one adjustment to the closing asset valuation to reflect net current liabilities of £[✂] million.[515]

126 This results in a closing asset value of £[✂] million (and a closing asset value £[✂] million in the sensitivity scenario based on an asset value of £[✂] million).

[515] Being net operating liabilities as at end 2019, sourced from Motorola’s August Model.

Profitability model calculations – assumption on discount factor

127 Finally, we needed a discount factor in order to discount the nominal cashflows to a present value of cashflows. As set out in Appendix J, we estimated a cost of capital for the historical or 'PFI' period of between 8.1% and 10.2%, the mid-point being 9.1%, which is what we used in the model.

Profitability model results

128 We set out the calculations to arrive at the profitability model results in table G-11, using the base case of an NRV of Airwave's assets of £[✂] million and thus a closing asset value of £[✂] million.

Table G-11: Summary profitability model calculations 2002-2019, £m (cont'd on next page)

	31/3/02	31/3/03	31/3/04	31/3/05	31/1/06	31/12/06	30/6/08	30/6/09	30/6/10	30/6/11	30/6/12
Revenues	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Net margin % of revenues	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Operating profit/(loss)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Add Depreciation	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Add Amortization	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Funds generated by operations	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Capex and residual value	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Acquisition charges in 2016											
Working capital adjustment	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Net cash flows	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cumulative net cash flows	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Discount factor	1.09	1.19	1.30	1.42	1.53	1.65	1.88	2.06	2.24	2.45	2.67
Discounted cash flows	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cumulative discounted cash flows	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Table G-11: Summary profitability model calculations 2002-2019, £m (cont'd)

	30/6/13	30/6/14	30/6/15	31/12/15	31/12/16	31/12/17	31/12/18	31/12/19	31/12/19
Revenues	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	
Net margin % of revenues	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	
Operating profit/(loss)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	
Add Depreciation	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	
Add Amortization	[✂]				[✂]	[✂]	[✂]	[✂]	
Funds generated by operations	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	
Capex and residual value	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Acquisition charges in 2016					[✂]				
Working capital adjustment	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Net cash flows	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cumulative net cash flows	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Discount factor	2.92	3.18	3.47	3.63	3.96	4.32	4.72	5.15	5.15
Discounted cash flows	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cumulative discounted cash flows	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	101.3

Source: CMA calculations based on Motorola data

129 We set out the results for the base case and a scenario in which the NRV of Airwave's assets is £[✂] million in table G-12.

Table G-12: Profitability model results 2001-2019, % / £m

Results	Base case	Sensitivity
NPV £m	£101m	£122m
IRR %	10.8%	11.1%

Source: CMA calculations based on Motorola data

Benchmarking

130 In the Profitability Methodology Approach Working Paper we stated our emerging view that broader price or margin benchmarking may provide useful insight into the extent to which Airwave Solutions' prices and/or profits reflect those that one would expect to see in a well-functioning market. We also recognised that price or margin benchmarking may have some limitations, and invited Airwave Solutions and other interested parties to make submissions on whether there were specific price/profit benchmarks from other countries and/or telecoms networks that we should consider and the extent to which these are comparable with the supply of LMR network services (and ancillary services) in Great Britain.

131 Motorola told us[516] that we did not need to carry out such an exercise since there was no reason for the CMA to believe that Airwave Solutions was making excessive profits, when measured against the metric (IRR) chosen by the parties to the PFI Agreement which itself was recognised as an appropriate measure of profitability.

132 We disagree with Motorola's submission that there was no reason for the CMA to believe that Airwave Solutions may be making supernormal profits[517] and that this was a reason for not needing to carry out such an exercise. However, although we consider that price or margin benchmarking may provide useful insight, we note the difficulties with identifying suitable benchmarks against which to compare Airwave's prices or margins given the highly specific nature of the business, which we discussed in section 4 , paragraphs 4.246 to 4.264 and Appendix F.[518] Therefore, we considered that

516 Motorola's response to the CMA's Working Paper on Profitability, 10 January 2022, paragraph 41
517 Analysis contained in paragraphs 1.69–1.85 of Market Investigation Reference Final Report
518 [✂].

such benchmarking is unlikely to yield robust conclusions and we did not pursue this avenue of inquiry further.

APPENDIX H: TRANSFER CHARGES

Introduction

1 In this appendix, we set out our analysis and conclusions on the nature and level of transfer charges by Motorola into Airwave Solutions covering the period since it acquired Airwave Solutions in 2016 up to and including the year to December 2020 in the following five areas:

(a) The parent company guarantee;

(b) Corporate support services;

(c) Strategic support;

(d) ‘MSI field engineers’; and

(e) Equipment purchases.

Appropriateness of costs

2 In addition to identifying the scope of the relevant services for the purposes of our analysis,[519] we have also considered the suitability of the ‘in-scope’ costs. We note that, in principle, there are three aspects to this assessment:

(a) whether Airwave Solutions has, over the years, gone about providing the services it has committed to providing in an efficient manner ie one that minimises the resources used commensurate with providing the level of service required by the contracts, or otherwise committed to;

(b) whether the cost of the resources actually used has been suitably measured in that the amounts reported to us represent those resources' economic cost;[520] and

[519] See Appendix G Profitability.
[520] Economic costs are the costs of resources used at the price they would be traded at in a competitive market, where entry to and exit from the market was easy. In particular, they include the normal profit that would be earned if the resources were used elsewhere in the economy, that is, the opportunity cost of the capital employed. Economic costs are sometimes referred to as continuing costs: for profit and loss items they reflect the opportunity cost of the relevant resources at the point of time the purchaser commits to their purchase (which normally roughly coincides with the point at which the resources are utilised); for assets (balance sheet items) they reflect the opportunity cost of the utilisation of the asset at that point in time, the economic costs for which is influenced by the availability of newer, potentially ‘better’ replacement assets.

(c) whether the costs incurred are, by nature, the sort of costs that a provider would be incurring were there to be a competitive market in the provision of LMR services.

3 This appendix does not consider the first of these three aspects, that is whether Airwave Solutions is efficiently incurring these costs ie choosing the most appropriate way/supplier/subcontractors to fulfil particular tasks or provide various inputs. That would be an efficiency assessment. We note that in the absence of detailed cost information on comparable firms offering LMR services, it would be very difficult to carry out such analysis. We have, therefore, implicitly assumed that Airwave Solutions operates efficiently. In our assessment of costs, we focus on points (b) and (c) above.

4 Airwave Solutions is not a standalone firm transacting exclusively with third parties.It is part of the Motorola corporate group and it transacts extensively with other legal entities within that group. Airwave Solutions therefore utilises both resources external to the Motorola corporate group (Motorola) and resources that have been provided internally.[521]

5 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 that the costs of utilising these resources would have been measured on an economic basis.

6 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 transfer pricing policy document appears to have been devised primarily for tax planning and compliance purposes.[522] We note that Motorola may also have an additional incentive in reducing the apparent profitability of Airwave Solutions in the context of its on-going negotiations with the Home Office.

[521] For this purpose costs that Airwave Solutions incurs by contracting with third parties (which would include its staff costs) are counted as external costs.
[522] Motorola internal document, 6 September 2017. This document indicates that transfer pricing policy is owned by Motorola's Corporate Tax department. (Motorola's response to Q1 to RFI 2 dated 9 July 2021, [✂].)

7 We have, therefore, undertaken a detailed review of Airwave Solutions' transactions with the rest of Motorola.

Introduction to our investigation into transfer charging into Airwave Solutions

8 Motorola told us that Airwave Solutions procured the following types of goods, services and labour from other Motorola legal entities:

(a) A Motorola-provided financial/performance guarantee as required by the Blue Light Contracts;

(b) Strategic support;

(c) Hardware maintenance, software support, and other technical support, including 'secondment' of certain Motorola Solutions UK engineers or other employees performing technical services;

(d) Supply of networking equipment manufactured, acquired, and/or assembled by other Motorola companies;

(e) Selling, General & Administration (SG&A) support services, including management, IT, marketing, legal, treasury and cash management, HR, tax, training, procurement, accounting and finance, etc. Such support services are acquired from other Motorola companies having Europe, the Middle East and Africa (EMEA) regional and global functional groups and personnel; and

(f) R&D services with respect to Pronto software applications.[523]

9 We note that the level of the first three categories of costs set out above, as reported within the profit and loss account prepared for tax purposes,[524] changed significantly between 2018 and 2020, as set out in Table H.1. (Note: 'management charges' includes the parent company guarantee and the strategic support fee).

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[523] Motorola's response to Q15 of the RFI dated 16 December 2021, paragraph 40. [✂]. The running order has been changed to reflect the order in which we discuss the different types of transfer charge below.
[524] This profit and loss account is more detailed than that set out in ASL's statutory financial statements.

Table H.1: extracts from Airwave Solutions' detailed 'tax' profit and loss accounts 2018-2020

£'m	2018	2019	2020
Management charges	[✂]	[✂]	[✂]
Maintenance	[✂]	[✂]	[✂]

Source: CMA analysis based on Motorola's response to Q9 to RFI dated 16 December 2021 [✂]

10 Regarding maintenance charges, we noted, in particular, that the internal charge for 'MSI field engineers' shown within the August Model doubled from around £[✂] million per year in years 2016 through to 2019 to £[✂] million in 2020.[525]

11 With respect to capex, we observed that the level of capex forecast to be incurred in refreshing the Airwave Network was significant in scale and varied materially (for the same year) across various Airwave Solutions / Motorola source documents. For example, in our Decision on MIR we noted that capex forecasts had been materially lower at £[✂] million in the June Model compared with £[✂] million in its August Model.[526] We understand that these differences can be explained, in large part, by the inclusion/exclusion of mark-ups on capex.[527]

12 Motorola provided us with schedules of capital expenditure forecasts for Airwave Solutions showing a net cost as well as a gross cost in relation to items labelled *MSI Equipment and Labour* (as opposed to either *Insource Labour (OWC[528])* or *External Equipment)*.[529] The difference between the net cost and gross cost represented mark-ups of between [1.00 to 1.50] [✂] and [4.00 to 5.00] [✂] times the net cost.[530]

13 We therefore have sought to investigate the following areas in more depth by requesting and then reviewing the reasoning and evidence to support the transfer charges into Airwave Solutions:

(a) Parent company guarantee (PCG) fee

(b) SG&A support services

[525] Motorola's August IRR Model, 30 August 2021] supplied by Motorola in response to RFI No5 dated 7 August 2021. [✂]
[526] These forecasts covered the period January 2020 to December 2026, ie seven years in total. See footnote 62 at paragraph 1.82 of CMA (2021), Final report and decision on a market investigation reference.
[527] As set out in paragraphs 101 to 106 below, Motorola does not charge mark-ups on its capex for the purposes of its Airwave Business Unit performance packs but does so in Airwave Solutions' statutory financial statements.
[528] Own work capitalised ie capitalisation of labour costs incurred by Airwave Solutions.
[529] Motorola's response to Q29 of RFI dated 16 December 2021, attachment. [✂]
[530] CMA analysis.

(c) Strategic support fee

(d) ‘MSI field engineers’

(e) Equipment and other capex purchases.

14 We note that we have not sought to review the charges made for R&D services with respect to Pronto software applications as we are excluding Pronto (and its costs and revenues) from the scope of our profitability analysis and charge control.

Motorola submissions

15 In response to our working paper,[531] Motorola made the overarching point that its transfer pricing policy fully reflected arm’s length pricing under the tax laws of the United Kingdom and the United States, as well as under economic principles for intercompany transfer pricing reflected by OECD guidelines and generally accepted around the world. As the arm’s length principle under international tax law sought to reflect the pricing between independent parties operating in a realistic marketplace, Motorola submitted, the transfer prices established for transactions between the rest of Motorola and Airwave Solutions provided the best estimate for the economic costs that the CMA purported to establish by making wholly unjustified adjustments.[532]

Our assessment of Motorola’s submission

16 Our detailed analysis of each type of transfer charge is set out below. We note that our assessment focuses on identifying the economic level of costs for the purposes of our profitability analysis and charge control and that our conclusions may differ from those of the relevant tax authorities for a number of reasons. We do not suggest that our adjustments would be appropriate or relevant for any tax authority, which would need to conduct its own assessment. However, we also observe that our concerns with the approach adopted by Motorola arise from the methodologies and assumptions applied in identifying ‘arm’s-length pricing’, the evidence that it has adduced to support the figures that it has used and the associated reasoning. As set out in greater detail below, in several instances, our finding is that Motorola’s

[531] This working paper was shared with Motorola only in May 2022 and reflected our understanding of its transfer charging practices as of 12 May 2022.
[532] Motorola’s response to the Transfer Charges Working Paper, paragraph 11. [✂]

approach does not reflect arm's length pricing and we have made adjustments accordingly.

The parent company guarantee

Background

17 Motorola told us that MSI provided a substantial parent company guarantee to guarantee the performance of Airwave Solutions regarding Airwave Services.[533]

18 We understand that the purpose of this guarantee was to ensure the orderly operation of the Airwave Network for as long as it should be required including during the period of transition away from the Airwave Network to ESN when the revenues received by Airwave Solutions may have been expected to decline, while operating costs may have continued at a similar level until the point at which the Network was finally switched off.[534]

19 A parent company guarantee had been in place with Macquarie, the previous owners of Airwave Solutions, and when Motorola sought to acquire Airwave Solutions from Macquarie the level of the guarantee formed one element of the settlement that was negotiated in early 2016 between the Home Office and Motorola, in this case so as to maintain a similar level of protection for the Home Office.[535]

20 The Home Office told us that the 2016 settlement with Motorola, which included aligning all the Airwave services contract end dates, did not alter the fact that it would take a period of time, possibly up to [✂] years, for all the approximately 300,000 users to migrate,[536] with the core network needing to be maintained until the end of transition.[537] In addition, it would not be possible to switch off the Airwave Network on a region by region basis because if there were to be a 'big incident' in one region colleagues from other regions would need to be sent in to assist.[538]

[533] Motorola's response to Q11 of the RFI dated 16 December 2021, paragraph 32. [✂]
[534] In such a situation, we understand that the network might have been incurring cash outflows, with some potential risk in terms of whether an owner of the network would have been incentivised to continue its operation.
[535] Home Office submission to the Cabinet Office, 11 February 2016. [✂]
[536] Home Office Hearing with the CMA on 2 March 2022. [✂].
[537] Home Office Hearing with the CMA on 2 March 2022. [✂]
[538] Home Office Hearing with the CMA on 2 March 2022. [✂]

21 Motorola also highlighted that the guarantee would ensure that Airwave Solutions was able to obtain the capital to invest in network asset upgrade, including where necessary by ensuring that Airwave Solutions had the ability to obtain financing elsewhere.[539]

The analysis carried out by KPMG

22 Motorola provided a document entitled 'Motorola Solutions, Inc. Transfer Pricing Planning Report' that had been produced by KPMG and dated 4 August 2020 ('the KPMG Report').[540] Motorola explained that in 2019 it had commissioned KPMG to perform a transfer pricing planning analysis covering Motorola's transfer pricing policies in relation to a number of transactions. That assessment had been completed on 4 August 2020 and had produced a number of findings that set out ranges for the various fees that would appropriately compensate Motorola Solutions, Inc. for services and support provided to Airwave Solutions and Motorola Solutions UK Limited ('MSUK').[541]

23 In this report KMPG state:

> [✂][542] [✂]
>
> [✂][543] [✂]
>
> In entering the Umbrella Agreement, all parties understand that MSUKACL is merely an intermediate holding company and that MSI effectively stands in the shoes of MSUKACL to ensure performance of its obligations under the MSUKACL Parent Guarantee. Therefore, under the agreements, MSI is (for practical purposes) the primary obligor for claims brought against ASL [Airwave Solutions] on its performance in the Airwave contract. Given the terms of the agreements, MSI ultimately bears the risk related to the delivery of the Airwave network. Since MSUKACL is a holding company, from an economic standpoint, MSI is considered as the Guarantor on the intercompany guarantee (the "Subject

[539] Motorola Hearing with the CMA on 10 February 2022. [✂].
[540] The KPMG report, 4 August 2020. Motorola's response to Q1(b) of the RFI dated 16 February 2022, [✂].
[541] Motorola's response to Q1 of the RFI dated 16 February 2022, [✂]
[542] When Airwave Solutions was owned by Macquarie, Guardian Digital Communications Holdings Limited (GDCHL) was the immediate parent of Airwave Solutions.
[543] The entity created by Motorola to acquire Airwave Solutions.

Guarantee") and ASL [Airwave Solutions], the entity that performs the work, is considered as the Creditor. (Page 16)

The guarantee agreement between MSI and the Home Office is considered a parent company guarantee because MSI, the parent company of ASL [Airwave Solutions], is providing assurance that ASL [Airwave Solutions] will fulfil its contractual obligations to the Home Office. (Page 17)

Remuneration for the guarantee is largely driven by [✂]. In this regard, creditworthiness is a critical factor for comparability because it provides insight on the likelihood that a company will default on its obligations in a given period of time. Companies that have high credit ratings are less likely to default than companies that have low credit ratings. Based on creditworthiness, the likelihood of default could be inferred as expected default frequency ("EDF"). (Page 20)

In this specific context, the parent company guarantee would only be called upon if ASL [Airwave Solutions] is unable to meet its obligations and provide the services specified in its contract with the Home Office. Consequently, ASL's [Airwave Solutions] financial strength and probability of default are key considerations for the estimation of the guarantee fee. As a financial and performance Guarantor, MSI is motivated to support the Creditor during its delivery of the service to Home Office, and ultimately bears the liability associated with the guarantee arrangement to the extent MSI's financial and operational capacity allows. **Therefore, the creditworthiness and probability of default of MSI is also considered as a critical factor to determine the arm's length guarantee fee.** In light of this, KPMG began its financial and performance guarantee analysis by estimating the creditworthiness of the entities involved. KPMG then used these credit ratings to infer the entities' EDF and used the EDFs to establish an arm's length range of guarantee remuneration. [**Emphasis added by the CMA**]

24 The KPMG Report then set out how it had gone about estimating the cost that a third party would need to be remunerated to be willing to take on this guarantee. KPMG described how its 'RiskCalc' Model estimated a credit rating of A1 (A+) and Ba2 (BB) for Airwave Solutions and MSI, respectively, over the one-year horizon. KPMG also used S&P (Standard and Poor's)

analysis, giving Airwave Solutions and MSI a [credit] rating of A and B, respectively. KPMG then estimated the guarantee fees in relation to Airwave Solutions and MSI separately, taking the average of the EDFs from the RiskCalc and S&P models.[544]

25 For Airwave Solutions the EDFs of [✂]% and [✂]% from the RiskCalc and S&P models respectively, yielded an average EDF of [✂]%.[545] Similarly, MSI's EDFs of [✂]% and [✂]% from the RiskCalc and S&P models respectively, yielded an average EDF of [✂]%.[546]

26 The range of the guarantee fee established by the average EDF for each entity, KPMG concluded, was from [✂]% to [✂]% of the guarantee cap.[547]

27 MSI's guarantee had, KMPG explained, a cap of £[✂] million as adjusted for inflation.[548] To estimate the potential guarantee fee, KPMG first translated the liability cap into US dollars using the 2019 average foreign exchange rate. Next, KPMG used the UK Office for National Statistics' consumer price inflation time series to adjust for inflation. KPMG then took the inflation adjusted maximum liability and multiplied it by Airwave Solutions' average EDF and MSI's average EDF to create a range of potential guarantee fees.[549]

28 KPMG's calculations are reproduced in Table H.2 below.

[544] The KPMG Report, pages 21–22. [✂]
[545] The KPMG Report, page 22. [✂]
[546] The KPMG Report, page 22. [✂]
[547] The KPMG Report, page 22. [✂]
[548] Parent Company Guarantee Umbrella Agreement, 17 February 2016, paragraph 5.1. Motorola response to Q17 of the RFI dated 16 February 2022, [✂]
[549] The KPMG Report, page 22. [✂]

Table H.2: KPMG's calculation of the range for the transfer charge for the guarantee fee for 2019

	Formula	*Currency (where applicable)*	
Maximum liability	A	£	[✂]
Foreign exchange rate	B		[✂]
Maximum liability	C = A * B	US$	[✂]
Inflation index value 02/2016	D		260.0
Inflation index value 10/2019	E		288.3
Inflation adjusted maximum liability	F = C * (E / D)	US$	[✂]]
Airwave Solutions' average expected default frequency for 2019	G		[✂]
Motorola's average expected default frequency for 2019	H		[✂]
Guarantee fee for 2019 (minimum)	I = F * G	US$	[✂ [USD 0.5 to 1.0 million]
Guarantee fee for 2019 (maximum)	J = F * H	US$	[✂] [USD 9.0 to 10.0 million]

Source: KPMG analysis as set out in the KPMG Report, pages 22 to 23. [✂]

29 The table therefore gives a range of US$ [0.5 to 1.0 million] [✂] million per year to US$ 9.0 to 10.0 million] [✂] million per year. The US$ [0.5 to 1.0 million] [✂] million per year relates to Airwave Solutions' probability of default whereas the US$ [9.0 to 10.0 million] [✂] million per year relates to Motorola's probability of default.

Assessment

Our assessment of KMPG's analysis

30 First, we note that the KPMG Report is a planning study commissioned by Motorola in order to help inform it of its options regarding transfer pricing. The KPMG Report is not a documentation report which sets out with evidence the basis for the structure and level of the transfer charges chosen by Motorola in each case. As a result, this planning report is a report without

conclusions about which structure of charging and level was chosen. We would have expected to have also been provided with a document setting out the amount chosen and the basis for that choice.

31 Next, from the analysis set out in the KPMG Report, we note the lower end of the range is produced by multiplying the Airwave Solutions probability of default by the £[✂] million maximum value of the guarantee (adjusted for inflation) and that the upper end of the range is driven by the Motorola corporate group probability of default. We note two issues with this approach. First, we consider the latter to be an inappropriate basis for assessing the value of this guarantee since, if the Motorola corporate group were to default, the guarantee would be worthless. Rather, in our view, the value of this guarantee should be determined by the probability of a default by Airwave Solutions multiplied either by the expected actual loss under the guarantee or the maximum possible loss.

32 Second, we have concerns about the use of the £[✂] million maximum value of the guarantee as opposed to the expected actual loss resulting from the PCG at any time. Costing the PCG on the basis of the maximum possible loss would view this transaction as akin to a bank guarantee, which would be priced on the basis of the bank's maximum exposure. Costing this transfer on the basis of expected actual loss would view this transaction on the basis of information internal to Motorola about the spread of likely outcomes. This is the basis on which costs relating to uncertain future eventualities, here the level of the loss, should the guarantee be called in, are generally estimated for financial reporting purposes.

33 We note that a parent company, rather than a third party, guarantee differs in that the parent has, to a significant extent, the ability and incentive to influence the likelihood and mitigate any actual loss incurred by the actions it takes. Given both Airwave Solutions' and Motorola's greater knowledge of the Airwave Solutions business and ability to make changes to that business eg require replacement of staff, then in a well-managed business it is likely that an internal guarantee would bear a lower level of risk than would be reflected in the pricing offered by a third party guarantor.

34 In terms of the expected actual loss, Motorola has not provided us with any analysis/assessment of its expected actual loss in the case of default by Airwave Solutions. However, Motorola told us that the original PFI Agreement was varied as follows:

Pursuant to Clause [✂], "[✂]". Clause [✂] provides that:

"[✂], it is agreed that Airwave will continue to provide all Airwave Services and the Customers will continue to pay the Airwave Service Charges in respect of the Airwave Services provided to each Customer until the final agreed expiry date of the National Shut Down or the Delayed Transition Group: [✂], whichever is the later [✂]."[550]

35 We understand, therefore, that all core service charges must be paid up to the National Shut Down Date and that most menu service charges can be expected to be paid until that point. Indeed, in its financial modelling, Airwave Solutions forecasts revenues of around £[✂] million per year and EBITDA of around £[✂] million up until 2026 in spite of some loss of menu revenues. That is to say that Airwave's revenues are no longer forecast to decline materially prior to the National Shut Down Date, reducing both the risk of any loss and the potential scale thereof. In this context, it appears to us extreme to assume an expected actual loss of £[✂] million.

36 However, on the basis that the appropriate approach is to adopt an estimate based on the probability of a default by Airwave Solutions, whether one uses the expected actual loss or the maximum potential loss makes relatively little difference, with the latter producing an estimate of approximately £[0.3 to 0.8] [✂] million per year and the former producing a figure of between £0 and £[0.3 to 0.8] [✂] million per year. Therefore, we have not sought to refine this figure further and have taken the upper end of this range. We consider this approach to be conservative.

37 In its response to our working paper Motorola told us that, in addition to providing a financial guarantee required for Airwave Solutions to execute contracts with the Home Office and public safety agencies, it was also providing a performance guarantee which committed Motorola to providing resources (or obtaining the same from third parties) to provide network services to Airwave Solutions customers in the event that Airwave Solutions failed to do so.[551]

38 We do not regard the inclusion of a 'performance' commitment within the guarantee as a factor which would support a change in our analysis. We note that the provision of resources from Motorola or procured from a third party still fundamentally represents a cost to Motorola as a business and would, therefore, be covered by the financial aspect of the PCG. We note

550 Motorola submission to CMA, 14 January 2022, page 10. [✂]
551 Motorola response to the Transfer Charges Working Paper, 27 May 2022, [✂]

that the remedy provided for failure of Airwave Solutions / Motorola to perform is financial redress, not one that guarantees future satisfactory operational performance to Airwave Solutions' customers.[552]

39 We received no comments from Motorola on our provisional view on this matter as set out in the PDR. The Home Office told us that it agreed with us that the level of the PCG should be based on Airwave Solutions' expected probability of default rather than that of Motorola, given that the value to the Home Office was driven by the protection offered to Airwave Solutions via the guarantee.[553]

Conclusion

40 Therefore, our conclusion is that the highest amount that could reasonably be levied on Airwave Solutions for this financial support from Motorola is US$[0.5 to 1.0] [✂] million per year, on the basis of the KPMG numbers. Given the narrow range for the potential appropriate level of this fee, we have therefore set this figure to £[0.3 to 0.8] [✂] million per year[554] for the purposes of our analysis of profitability and informing our charge control remedy.

SG&A support services

Background

41 Our understanding is that these services relate to the routine provision of sales, marketing, distribution and administrative/management services to members of the Motorola corporate group and which are centrally provided by Motorola, either regionally through regional hubs or from head office.

42 Motorola told us that SG&A support services (as set out at paragraph 8(e)) were allocated/attributed to Airwave Solutions on the basis of cost incurred. Motorola described these services as shared services.[555]

43 Motorola further explained that annually the SG&A departmental cost centres of several Motorola legal entities were qualitatively reviewed by the

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[552] Parent Company Guarantee Umbrella Agreement, 17 February 2016. Motorola response to Q17 of the RFI dated 16 February 2022. [✂]
[553] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 4.2.
[554] $576,185 Minimum Guarantee Fee converted into UK£ at 0.765127 (April 2022 exchange rate) = £441k per year.
[555] Motorola response to Q16 of the RFI dated 16 December 2022, paragraph 41. [✂]

Motorola transfer pricing team to determine the activities or functions that benefit multiple Motorola legal entities and, therefore, should be allocated across multiple legal entities consistent with transfer pricing principles and practice. For such departmental cost centres – for example, within Motorola Solutions Inc. or Motorola Solutions UK (as the EMEA regional hub) – a further analysis was done to determine the percentage of each cost centre's costs that should be retained by the legal entity and, conversely, the remaining costs that should be charged out. For costs to be charged out, recipient Motorola legal entities that benefitted from group SG&A services, and therefore which were subject to the charge-outs, were identified based on the nature and type of transferring entity's (eg Motorola Solutions, Inc. or Motorola Solutions UK Limited) departmental activities and functions.[556]

44 Regional and global costs, Motorola continued, were allocated amongst Airwave Solutions and other Motorola entities using a variety of allocation keys (such as net sales or headcount). Qualitative factors were applied to appropriately allocate to Airwave Solutions-only costs of functions or services that provide a benefit to Airwave Solutions.[557]

45 In general, service costs, Motorola told us, were charged across legal entities with a [✂]% mark-up, except that certain allocated third-party costs were charged through without mark-up.

Analysis

46 We asked Motorola to provide a more detailed breakdown of these costs transferred into Airwave Solutions, and this is set out in the two tables (Table H.3 and Table H.4) below.[558] We note that the first table, for management charges, also reflects the strategic support and guarantee fee, which for our purposes we are analysing separately from SG&A.

[556] Motorola response to Q17a) of the RFI dated 16 December 2021, paragraphs 43–44. [✂]
[557] Motorola response to Q17b) of the RFI dated 16 December 2021, paragraph 46. [✂]
[558] 'Management charges' is a line items identified in Airwave Solutions' detailed profit and loss account for tax submission purposes. 'Group recharges' is a line item in 'Sundry other admin costs', which is the line item within Airwave Solutions' detailed profit and loss account for tax submission purposes.

Table H.3: Analysis of management charges

£m		12 months to December		
		2018	2019	2020
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]	[✂]
	Total management charges as per Table H-1	[✂]	[✂]	[✂]

Note: AW stands for Airwave Solutions
Source: CMA analysis based on data provided in Motorola response to Q11 of the RFI dated 16 December 2021, attachment. [✂]

Table H.4: Analysis of group recharges

£m

	12 months to December		
	2018	2019	2020
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]

Source: CMA analysis Internal CMA workbook, based on data provided in Motorola response to Q11 of the RFI dated 16 December 2021, attachment. [✂]

Assessment

47 We note that Motorola appears to have a well-established and granular mechanism to transfer costs of this nature incurred by one member of the Motorola corporate group for products/services provided by another member.

48 In neither its response to our working paper nor the PDR did Motorola comment on our analysis of this issue. The Home Office told us that it considered the approach we had taken with respect to SG&A to be reasonable. [559]

Conclusion

49 We have not seen any evidence to suggest Motorola's SG&A support services transfer charges have not been determined on an objective, arm's length basis. Therefore, we have not made any changes to these. For the

[559] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 4.2.

purposes of analysing profitability and our charge control remedy, this means that we only make adjustments in relation to the parent company guarantee fee (see above), the strategic support fee (see below), and 'MSI field engineers' (see below).

Strategic support

Background

50 Motorola told us that the strategic management fee had been charged by MSI from 2019 onwards in order to compensate MSI 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 coordination for ESN transition.[560]

51 Further, Motorola explained, strategic support from MSI in those earlier years (ie 2016 to 2018) had been provided in MSI's role as a shareholder protecting its investment (which would not be appropriate to charge-out) versus the provision of strategic management services/know-how/technology commitment. [561]

52 The strategic management fee, Motorola further explained, had not been charged in earlier years immediately post-acquisition because Airwave Solutions' management had remained in place and the company had operated independently. The organisational integration of Airwave Solutions and MSUK management and also the progress made toward moving ESN to a revenue-producing platform that required integration and transition coordination with Airwave Solutions had not taken place until much later.[562]

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[560] Motorola response to Q11 of the RFI dated 16 December 2021, paragraph 32. [✂]
[561] Motorola response to Q11 of the RFI dated 16 December 2021, paragraph 32. [✂]
[562] Motorola response to Q11 of the RFI dated 16 December 2021, paragraph 32. [✂]

53 Motorola also told us that it had removed from Airwave Solutions the following positions whose holders had provided strategic management to Airwave Solutions at the time Motorola acquired the business:

(a) Chief Executive Officer (CEO);

(b) Chief Operating Officer;

(c) Chief Financial Officer;

(d) Chief Technology Officer;

(e) Head of Strategy and Corporate Finance;

(f) Director Customer Service; and

(g) Head of Legal.[563]

54 In addition, Motorola told us that it changed the entire leadership team of Airwave Solutions, including the CEO, within six months of it acquiring the business in order to help it improve its relationship with the Home Office.[564]

55 In Motorola's Hearing we asked Motorola to explain why this fee had appeared in 2019.[565] Motorola's [✂], explained that the reason why it had not been instigated earlier was largely because Airwave Solutions was still operating as a standalone company even though it had been part of Motorola since its acquisition in 2016. While it was the case that Airwave Solutions' senior management had departed, a lot of the old Airwave Solutions processes remained intact and in place, so that it continued to operate independently. With the ending of the original Airwave contracts in 2019, Motorola put in place more oversight of Airwave Solutions to ensure that it reflected Motorola's corporate policy in terms of the ESN strategy, in terms of overseeing the contracts with the Home Office, what were the next steps and things like that. An assessment, Motorola explained was done and it was benchmarked with a third-party consultant as well who came back with a range for a possible transfer charge. That was when the strategic management fee had been put into place.[566]

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563 Motorola response to Q7c) to RFI dated 16 December 2021, paragraph 8 [✂] and attachment setting out the relevant individuals and their positions. [✂]
564 Motorola Hearing with the CMA on 10 February 2022. [✂]
565 Motorola Hearing with the CMA on 10 February 2022. [✂].
566 Motorola Hearing with the CMA on 10 February 2022. [✂]

56 Motorola told us that the benchmark came back with a range of 3 to 7% of revenue. Motorola selected an estimate of [✂]% of revenue, being at the conservative end of the range.[567]

KPMG Report relating to the strategic support fee

57 As explained in paragraph 22 Motorola provided us with the KPMG Report.

58 In this report KPMG describe the primary and supporting functions and key assets associated with MSI's provision of know-how and strategic support services to Airwave Solutions.[568] The primary functions are listed as: contract negotiation (Airwave extension and ESN transition), R&D, oversight and strategic decision-making and maintaining the relationship with the Home Office. The supporting activities are described as: IP protection and the provision of expertise in managing the network. The key assets are listed as: Brand / Motorola credibility, technical know-how and TETRA technology.

59 In addition, KPMG set out what it saw as the economically significant risks to Motorola when providing know-how and strategic support services to Airwave Solutions, including: reputational risk, contractual risk, and network outage risk.

60 KPMG described how it sought to identify comparable internal and/or external agreements that involve transfers of goods, services, intangible property or financing in comparable circumstances. It used the Intangible Spring[569] database to identify agreements involving the provision of strategic know-how and support services. KMPG identified ten agreements (Licensor/Licensee) and their respective royalty rates.

61 KPMG found that the inter-quartile range of royalty rates identified in the selected comparable agreements was between 3.3% and 7.0%, with a median of 5.0%. Therefore, in relation to MSI's provision of strategic know-how and support services to Airwave Solutions, a transfer charge ranging from 3.3% on Airwave Solutions' net sales to 7.0% on Airwave Solutions' net sales was considered consistent with arm's length principle.

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567 Motorola Hearing with the CMA on 10 February 2022. [✂].
568 The KPMG Report. [✂]
569 Intangible Spring is a US firm that, amongst other things, offers access to proprietary databases relating to intangible-owning businesses. Customers of Intangible Spring would therefore be able to benchmark the value of their, or their own clients', intangible assets using data held in these databases.

Assessment

Our assessment of KMPG's analysis

62 We note that the approach adopted by KPMG benchmarks Motorola's strategic support to Airwave against a franchisor/franchisee model. We do not consider, as a point of principle, that this is a reasonable characterisation of the nature of interactions between Airwave Solutions and the rest of Motorola. The elements of a standard franchise agreement typically include:

(a) An initial franchisee lump sum investment;

(b) royalty payments to franchisor expressed as a percentage of franchisee revenue to cover use of franchisor's name, brand, methods, know-how, processes, marketing efforts, and strategic support;

(c) franchisee's purchase of inputs/materials from franchisor;

(d) franchisee's right to operate exclusively in a defined territory; and

(e) franchisor's right to terminate the franchisee's contract.

63 We note that

(a) Airwave Solutions operated in its current form independently of Motorola for the first 15 years of its lifespan and therefore appears to have had the know-how etc to provide LMR network services without Motorola's support;

(b) it continues to use its own brand rather than Motorola's;[570]

(c) Motorola separately provided services in the UK via its involvement in ESN[571] (ie Airwave Solutions does not have an exclusive right to operate in the UK);

(d) Airwave Solutions' purchases of inputs from Motorola are qualitatively similar to the situation when the two businesses were under separate ownership; and

[570] Further, we note that we are not aware that Airwave Solutions has made any 'lump sum' investment in Motorola to adopt the brand or take on its ways of working as is usual in a franchise agreement.

[571] 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. Home Office and Motorola terminate £400m emergency services contract (civilserviceworld.com)

(e) it is not clear to what extent Motorola has the right to terminate Airwave Solutions' contract with the rest of Motorola (if any such contract exists for these strategic support services) or what the practical implications would be for Airwave Solutions if it were to do so.

64 We are also concerned that the approach adopted by KPMG may result in the double-counting of costs in Airwave Solutions' financial statements. In particular, we observed that we would expect many, if not all, of the know-how and support services detailed in the KPMG Report to be covered by other, pre-existing transfer charges within Airwave Solutions' financial statements. For example:

(a) Under the primary functions, KPMG refers to MSI's support taking the form of reviewing and approving business cases for new investment in network equipment or R&D, setting annual strategic objectives and sharing metrics to help gauge efficiency and operating risk over time to better understand the Airwave network's performance.[572] We consider these activities to reflect the normal provision of management services/guidance that might be expected within a corporate group and that we might expect to be covered by a recharge of group- and/or regional level overhead/administrative costs. As set out in paragraphs 41 to 49 above, we understand that Airwave Solutions is recharged for such group- and regional-level costs, including a [✂]% mark-up for the centre. It is unclear, therefore, why any further additional charge is required;

(b) KPMG states that Motorola provides Airwave Solutions with the benefit of its extensive know-how in providing mission critical communications (in general) and TETRA technologies, software and services (in particular). However, Airwave Solutions pays a specific fee for MSI field engineers, which Motorola describes as covering hardware maintenance and software support. These costs are included in Airwave Solutions operating costs, as they were prior to Motorola's acquisition of the business in 2016;

(c) KPMG describes the strategic fee as covering Motorola's protection of its IP rights, the benefit of the credibility of the Motorola brand, the benefit of MSI-specific patents and know-how in respect of TETRA technology, which is embedded in switching platforms and base stations that are deployed by Airwave Solutions in delivering the

[572] The KPMG Report, pages 56–63. [✂]

Airwave Network, and the investment in supporting the ongoing functionality of the equipment. However, we consider that when a firm like Airwave Solutions purchases Motorola branded goods then it is also buying all these product features as part of the brand promise that is associated with them, ie these 'benefits' or features are included in the purchase price of the equipment. An emergency communications network, such as Airwave Solutions, would not purchase equipment that was unlikely to be supported over its useful life, nor would it expect to pay extra (ie over and above the purchase price) for the embedded features of that equipment or for the supplier's costs of protecting its IP. We note that Airwave Solutions purchases significant capital equipment from Motorola and we set out our assessment and view of the level of these transfer charges in paragraphs 114 to 119 below.

Other points

65 In order to distinguish the services provided under this heading from services already separately charged for either discretely or as part of a bundle, we would expect to see more specific documentation setting this out than we have seen. For example, a contract or contracts between the relevant two legal entities within Motorola might set out these services and associated deliverables and stipulate what would happen in the case of non-performance.

66 In addition, we observe that valuing other aspects of the 'strategic support' provided by the rest of Motorola to Airwave Solutions, notably the support in building relationships with and/or negotiating with the Home Office, based on a royalty/franchisee model appears problematic in the situation where Airwave Solutions has significant market power vis-à-vis its main customer, the Home Office. It is very difficult to distinguish the value added from these negotiation services from any potential supernormal profits Airwave Solutions is able to generate from customers and ultimately taxpayers.[573] An approach which valued such management time and input at cost (or cost plus a small margin) would avoid this potential circularity where market power apparently raises costs. In this context, we note that Airwave Solutions is already 'recharged' for global and regional group costs as set out in paragraphs 41 to 49 above. Motorola has not provided evidence or

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[573] We observe that much of the contribution that Motorola management is making to Airwave Solutions, and also MSUK in relation to the ESCMP, appears directed at improving the terms on which Motorola is able to negotiate with the Home Office (Airwave Solutions principal customer), rather than to improve the level of service/reduce the level of resources used to provide the service actually delivered.

argumentation to support the view that these recharges do not fully/appropriately recover the costs of the support provided to Airwave Solutions.

67 We note Motorola’s submissions at paragraphs 52 to 55 regarding the timing of changes in the way the Airwave Solutions business was managed once Motorola took ownership and the changes Motorola made to the leadership team of that business. We find these submissions somewhat contradictory in that, on the one hand, they suggest Motorola took immediate measures to change the leadership team, and to reduce its cost to Airwave Solutions, on assuming control of the business in 2016 and, on the other hand, they suggest that substantive changes in the way the business was managed, and by implication changes to its cost base, did not take effect until 2019. In this regard we observe that Airwave Solutions’ total staffing costs remained broadly static across 2016 and 2017, at around £34 million per year, before increasing to between £36 to £38 million per year in the years 2018 to 2020.[574]

68 There are situations where one part of a corporate group, typically the centre, makes investments that benefit other parts of the corporate group and the recovery of those investments, unlike here, cannot be reflected in the price charged for transfers of goods or services across the internal supply chain, simply because no such internal supply chain exists. In that case an internal charge based on a percentage of revenues or profits might serve both as a means to recover the cost of such investments and a mechanism for the resulting financial benefits to be shared. We understand, however, that in such cases it would be expected that the incremental positive impact on the level of profits generated by the recipient of the charge would be capable of being demonstrated. Motorola has not provided us with any such analysis or evidence to support the level of its strategic support fee. Further, as set out above, we note that Airwave Solutions appears to be charged via various fees for this type of services (SG&A recharges, ‘MSI field engineers’ and capex), ie there is an internal supply chain, such that a strategic support fee is not required in addition, ie it would double-count these services.

69 As previously noted at paragraph 30, the KPMG Report is a planning study without conclusions eg in relation to the level of the royalty fee chosen and which set of revenues it was applied to. Again, we would have expected to

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[574] As per CMA analysis of the amounts disclosed in the statutory financial statements for staffing costs.

have also been provided with a document setting out the amount chosen and the basis for that choice.

Motorola's response to our working paper

70 In its response to our working paper Motorola told us that, in addition to the services that it provided to Airwave Solutions under this umbrella (as set out in paragraph 50), it had also secured a [✂] credit facility [✂].[575]

71 Motorola also explained that it saw the intercompany relationship between Airwave Solutions and the rest of Motorola as involving numerous interconnected transactions that in combination had no clear market analogue. As the activities and IP of each party contributed significantly to the combined profit or loss of Motorola as a whole, a profit split method might be, Motorola told us, appropriate for UK/US tax purposes. It however had rejected that as administratively complex. It also wanted to avoid too drastic a shift from the prior transfer pricing methods for transactions in existence before the 2016 Airwave Solutions acquisition.[576]

72 Motorola further explained that it had therefore sought another mechanism for pricing the supplemental transactions and value that had been brought to the Motorola-Airwave Solutions business relationship, one of which[577] was Motorola's strategic support, technical expertise and know-how, contract negotiation support, project coordination with respect to ESN migration and interoperability, and strategic project commitment with respect to the network refresh, including technical know-how (collectively 'know-how and strategic support').[578] Motorola quoted the KPMG report as being clear about the fact that the nature of the support that Motorola provided to Airwave Solutions was similar to a franchise arrangement and that KPMG has suggested the use of a royalty-based approach, rejecting other potential approaches.[579]

Responses to the PDR

73 We received no comments from Motorola on our provisional view on this matter as set out in the PDR. The Home Office told us that it considered the

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[575] Motorola response to the Transfer Charges Working Paper, 27 May 2022, [✂]
[576] Motorola response to the Transfer Charges Working Paper, 27 May 2022, [✂]
[577] The other supplemental transaction being the parent company guarantee.
[578] Motorola response to the Transfer Charges Working Paper, 27 May 2022, [✂]
[579] Motorola response to the Transfer Charges Working Paper, 27 May 2022, [✂]

approach we had taken with respect to the level of the strategic support transfer charge to be reasonable.[580]

Conclusion

74 We note that KPMG's range for this transfer charge is based on royalty agreements and that a set percentage is applied to Airwave Solutions' revenues. We however conclude that this is not appropriate for the following reasons:

(a) We do not regard the interactions between Airwave Solutions and the rest of Motorola as meeting the criteria in paragraph 62 for characterising the relationship as akin to those between a franchisor and franchisee; we note that in its response to the working paper, Motorola neither disputed those criteria nor sought to challenge our application of each of those criteria to the rest of the Motorola / Airwave Solutions relationship.[581]

(b) There appears to be significant double-counting in terms of the support, know-how and services that are stated to be covered by this strategic support fee but for which other (material) transfer charges have been made to Airwave Solutions;

(c) While Airwave Solutions may benefit from the advantageous credit facilities set out in paragraph 70, these will be reflected in financing costs rather than operating costs. In our WACC assessment, we have considered a range of capital structures for the PFI period (in which the cost of debt is 6.5%), and a 100% equity-financing one for the post-PFI period.. In either of these cases, our financing cost allowance will be more generous than the costs actually incurred by Airwave Solutions in this respect and is, therefore, generous to the business in the context of profitability analysis;[582] and

(d) Finally, and to the extent that MSI's input is directed at improving the operational performance of Airwave Solutions, and that input that is not already reflected in the cost base, it appears to us that using a royalty-based system is not an appropriate way to measure the true economic cost of MSI resource deployed. Costings based on the use of

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[580] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 4.2.
[581] Motorola response to the Transfer Charges Working Paper, 27 May 2022. [✂]
[582] See Appendix J: Cost of Capital.

timesheets of the relevant personnel would directly provide evidence of the cost to Motorola of the expertise being provided to Airwave Solutions. Alternatively, a detailed quantitative assessment of the value added to Airwave Solutions by the provision of the strategic support services, could also provide a basis for assessing the economic value of these services and therefore what the potential economic cost may be.

75 For these reasons, and in particular due to the inclusion of material other transfer charges which, in our view cover the various services which Motorola submits are remunerated by the strategic support fee, we conclude that the level of this fee within our analysis should be set to zero in order to avoid double-counting and we have done so for the purposes of the analysis of profitability and informing our charge control remedy proposal.

‘MSI field engineers’

Background

76 As stated at paragraph 10, our initial focus in the area of maintenance charges was the increase in charging for MSI field engineers.

77 In Motorola’s Hearing we observed that for ‘MSI field engineers’ between 2016 and 2019 there had been a transfer charge about £[✂] million per year on average but that was by 2020 up to £[✂] million, roughly doubling. We asked what caused this increase.[583]

78 Motorola provided two explanations. First, Motorola told us that a similar assessment to those for the guarantee and strategic support fees had been undertaken.[584] In summary, the prices that had been agreed originally between Motorola and Airwave Solutions were very out of date at that point. Therefore, an extensive piece of work had been done in order to ascertain what the current prices should be. That, Motorola explained, was why there had been a significant increase between those years.[585]

79 Airwave Solutions’ [✂] told us that a piece of work had been done to evaluate what Motorola called software support agreements (SSAs). That was a fee levied against the support of the software and hardware repairs. Motorola characterised this as a typical support arrangement. Motorola had

[583] Motorola Hearing with the CMA on 10 February 2022. [✂]
[584] Motorola Hearing with the CMA on 10 February 2022. [✂]
[585] Motorola Hearing with the CMA on 10 February 2022. [✂]

gone through a valuation piece of work to understand what an appropriate software support charge would be for what had become an increasingly ageing asset. Motorola stated that there had been an internal paper to support the transfer charge.[586]

80 Motorola provided us with the following two reports which it described as follows:[587]

(a) Airwave [Hardware] (HW) [Software] (SW) Support – Final Rationale Document Updated October 2020;[588] and

(b) Airwave Motorola Support Agreement Extension Jan 2022 to Dec 2022 V3 Final.[589]

Final Rationale document for revised pricing for the period 1 January 2020 to 31 December 2022

81 In this document,[590] Motorola set out the following:

> The latest Airwave - Motorola Support Services Contract expired on 31 December 2019 and renewal was requested to extend the Term by a further 3 years to 31 December 2022.
>
> The previous pricing model had not been updated since 2016 and no longer correctly represented the current and forecast system configuration and components, and was also based on 2017 pricing.
>
> In order to bring the Contract up to date for 2020 and beyond, an outline forecast of the Airwave Network profile for the years 2020 to 2022 inclusive was provided by Airwave.
>
> This outline Airwave Network profile provided a forecast for the quantity of [✂] infrastructure zones as well as the

[586] Motorola Hearing with the CMA on 10 February 2022. [✂]
[587] Motorola response to Q1b) and c) to RFI dated 16 February 2022, paragraph 6. [✂]
[588] Motorola response to Q1b) and c) to RFI dated 16 February 2022, paragraph 6 label for attachment 'Airwave HW SW Support – Final Rationale Document [re MSI engineers] Updated October 2020' dated July 2020. [✂]
[589] Motorola response to Q1b) and c) of RFI dated 16 February 2022, paragraph 6[✂]
[590] The document itself is titled: *Airwave - Motorola Support Services Contract Update Rationale (July 2020).*

estimated number of [✂][591] ([✂][592] [✂][593]) and the evolving dispatcher provision anticipated at the end of each calendar year over the extended Term of the Contract. Given that the component quantities were constantly changing over time, due to network refresh activities, a midyear average view was taken for each component as a basis for the pricing model.[594]

82 This document set out that, having taken account of Motorola's forecast component quantities for 2020, 2021 and 2022,[595] and applying uplifts for both Motorola's assumed profile for obsolescence of the existing infrastructure and inflation at a nominal rate of [✂]% per annum,[596] the relevant transfer charges to Airwave Solutions, according to Motorola's service calculator, should be a flat £[✂] million for those same years.[597] [598] Finally, in line with common practice, the document explained, a fair market value (FMV) discount of [✂]% had been applied to the total value. The total discounted annual SSA charges are shown below, generating a charge of £[✂] million per year.[599]

Support Agreement Extension for the period 1 January 2020 to 31 December 2022

83 This document is a contract[600] ('agreement between Airwave Solutions Limited (Company Number 03985634) and Motorola Solutions UK Limited (Company Number: 00912182)') entitled 'Work package between Airwave Solutions and Motorola Solutions UK [13021]'. Page 2 sets out the history of the contracts between Motorola and Airwave Solutions since 30 June 2011 when the original framework agreement between Motorola and Airwave Solutions was entered into.[601]

84 This 36-page document dated 'July 2020' but with a footer dated December 2019, Schedule F – Pricing states that:[602]

[591] [✂]
[592] [✂]
[593] [✂]
[594] Motorola response to Q1b) and c) to RFI dated 16 February 2022, [✂]
[595] Motorola response to Q1b) and c) to RFI dated 16 February 2022, [✂]
[596] Motorola response to Q1b) and c) to RFI dated 16 February 2022, [✂]
[597] Motorola response to Q1b) and c) to RFI dated 16 February 2022, [✂]
[598] Motorola response to Q1b) and c) to RFI dated 16 February 2022, [✂]
[599] Motorola response to Q1b) and c) to RFI dated 16 February 2022, [✂]
[600] It may be/have been a requirement of the Original PFI Contract for all supplier agreements to be contractually agreed.
[601] Motorola response to Q1b) and c) to RFI dated 16 February 2022, [✂]
[602] Motorola response to Q1b) and c) to RFI dated 16 February 2022, [✂]

Motorola shall supply to Airwave the Deliverables as described within this Work Package at the charges set out in the figure below:

Figure H.1: Table of charges for years 2020 to 2022

[✂]

85 Schedule F also has sections on 'Hardware Charge Variations' and 'Subsidiary Service Charges' with a link to the TOPS (Terminal and Other Peripheral Suppliers) webpage at Airwave Solutions' website.[603]

Field engineers seconded from MSUK

86 Motorola told us that field engineers seconded from Motorola UK continued to be deployed within Airwave Solutions but as from January 2020 were not included within the scope of the above contract ie the Support Agreement Extension.[604]

Motorola response to our working paper

87 Motorola told us that the cost for support from 'MSI field engineers' reflected in the Airwave Solutions financial statements for the period until 2019 had been artificially reduced because of a pricing concession offered to Airwave Solutions in 2014 that should have been reverted much earlier. The subsequent increase was, Motorola explained, the consequence of the removal of an outdated discount combined with an increasing complexity of the support requirements given that a substantial portion of the Airwave Network's infrastructure at this time was beyond the end of support life.[605]

88 The support fees from 2020 onwards, Motorola continued, had been calculated using the Motorola service calculator, which was its standardised tool for generating prices based on the key inputs of the system being supported. That service calculator was used throughout Motorola for pricing service packages across all technologies and regions and took as inputs, for example, the number of sites, the number of control rooms, the current system release and the age of the equipment. The output of the service

[603] Motorola response to Q1b) and c) to RFI dated 16 February 2022, [✂]
[604] Motorola response to the Transfer Charges Working Paper, 27 May 2022, [✂]
[605] Motorola response to the Transfer Charges Working Paper, 27 May 2022, [✂]

calculator pricing was shown in Table 2 of the Final Rationale document.[606] [607]

89 Motorola told us that field engineers seconded from Motorola UK were now excluded from the contract and that was the explanation for why the figures quoted in the Final Rationale document were £[✂] million lower than those in the financial statements for Airwave Solutions.[608]

Motorola response to our formal information request

90 In its response Motorola further commented on the level of the previous charging to Airwave Solutions. It told us that in the previous re-negotiation, in 2014, for hardware and software support it had been clear that Airwave Solutions [✂] for software support.[609] Furthermore, [✂].[610]

91 In response to one of our questions on 'MSI field engineers', Motorola told us there had not been any material change to either the cost to MSUK of seconding engineers to Airwave Solutions or the transfer charges levied by MSUK for these engineers over the period 2016-2021. The higher level of transfer charges, Motorola, explained, referred to the higher pricing charged on Hardware and Software Maintenance Support.[611]

92 Motorola explained that, in contrast to the approach taken within the management accounts for the Airwave Business Unit, 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, 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 allocated to the Airwave Business Unit but attributed centrally to Motorola's R&D departments.[612]

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606 See paragraphs 81–82 above for an explanation of this document.
607 Motorola response to the Transfer Charges Working Paper, 27 May 2022, [✂]
608 Motorola response to the Transfer Charges Working Paper, 27 May 2022, [✂]
609 Motorola gave examples of Redhat, VmWare, Oracle and SAP as charging more for software support. Motorola response to Q2 of RFI dated 12 April 2022 [✂]
610 Motorola response to Q2 of RFI dated 12 April 2022, [✂]
611 Motorola response to Q2 of RFI dated 12 April 2022, [✂]
612 Motorola response to Q1 of RFI dated 12 April 2022, [✂]

Analysis of level of internal charges by different type of maintenance activity

93 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. 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 H.5 below.

Table H.5: Internal charges for maintenance costs 2016 to 2021, £ million

Contract negotiated with	*per Airwave Solutions transfer charges basis*						*per Airwave Business Unit basis*					
	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'	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Software & hardware support	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Note: The contract with Macquarie is dated December 2013 and covers the period from 1 January 2015 to 30 June 2017. (Motorola response to Q2 of RFI dated 12 April 2022, [✂]) 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. (Motorola response to Q2 of RFI dated 12 April 2022, [✂]

Source: CMA analysis.based on Motorola response to Q1 of RFI dated 12 April 2022. [✂]

94 We also gave Motorola an opportunity to make further submissions presenting any additional evidence or analysis that supported the higher level of internal charging for 'MSI field engineers' over and above the contemporaneous documentary evidence that it had which supported the terms of the revised contract.[613] We received no response from Motorola.

Assessment

95 Our view, based on the evidence provided to us, is that the price charged from 2014 to 2019 is not likely to reflect a 'below fair market' price. We would expect the then owner of Airwave Solutions, Macquarie, to have sought to achieve the best prices from all its external suppliers, including Motorola and, conversely, for Motorola to have sought to achieve the highest price it could achieve. The level of the charge reflected the outcome of a negotiated bargain between two large, well-informed firms. As we write in paragraph 5, Airwave Solutions would have had every incentive to minimise its cost base with an external third party. This contrasts with the current situation where the level of the charge reflects a unilateral decision on the part of the rest of Motorola that is imposed on Airwave Solutions.

96 Whilst it might be possible that the activity, and therefore the cost, of maintaining a network would increase as it nears the end of its economic

[613] Email from CMA to Motorola, 13 April 2022. [✂]

useful life, Motorola has not, through the documentation submitted to us, evidenced that across the period before and after the rise in this fee. Instead, it appears to us that Motorola has applied standardised premia to reflect the increased level of activity that it is forecasting. We also cannot, within the documentation provided to us, see evidence to support the increases in prices charged for individual tariff elements that generate the total sums shown in the tables in the Final Rationale document.

97 We note that Motorola has told us that the sums that it charges Airwave Solutions for hardware and software support are generated by its service calculator[614] but it has not provided us with that calculator, populated with the relevant inputs which generate the outputs as shown in table 2 of the Final Rationale document, notwithstanding our request for all documents that existed when the revised internal contract was drawn up to support/explain the higher level of internal charging. Other information that Motorola has provided, however, provides an alternative explanation for the increase in the level of internal charges post 2018: an increased recovery of around £[5 to 10] [✂] million per year for software overheads.[615] That suggests to us that the level of the charge has been increased by Motorola materially, something it may well not have been able to do if it had had to negotiate with a third party.

Responses to the PDR

98 We received no comments from Motorola on our provisional view on this matter as set out in the PDR. The Home Office told us that it considered the approach we had taken with respect to 'MSI field engineers' to be reasonable.[616]

Conclusion

99 In summary we observe:

(a) we have not received evidence that the level of fees agreed in 2014 and continuing until 2019 (before nearly doubling from 2020) was not in line with market prices – we consider this to be the best evidence we

[614] See paragraph Appendix H:88.
[615] See paragraph Appendix H:92 and also Motorola response to Q1 of RFI dated 12 April 2022, [✂] and associated workbook attachment. [✂]
[616] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 4.2.

have of arm’s length prices for such support (as negotiated between two independent, well-informed parties);

(b) no evidence has come to our attention of the need for increased levels of support despite Motorola's submissions that an adjustment to the previously negotiated level of fees (effective from 2014 to 2020 inclusive) would be warranted to take account of the additional volume of work); and

(c) based on all the submissions we have received from Motorola, it appears to us that that Motorola has chosen to increase mark-ups on the direct cost of providing the services contracted for.

100 In the absence of evidence for increased support activity on the ground, our view is that the level of the economic costs should be set at the previous level ie at approximately £[✂] million per year for the purposes of the profitability analysis and informing our charge control remedy. In our analysis, this sum has been indexed for inflation as appropriate.

Equipment purchases

Background

101 Motorola adopts two different approaches to costing internally sourced capex items for Airwave Solutions. For internal decision-making purposes it uses one basis (‘net production cost’) and for the basis of preparing statutory accounts it uses other bases as explained below.

Net production cost

102 Motorola told us that, in relation to the Airwave Business Unit, transfer charges for network equipment manufactured, acquired and/or assembled by other Motorola companies, were recorded at net production cost to Motorola.[617]

103 Motorola told us that net production cost was established via a global, internal online database referred to as the ‘[✂]’. That [✂] was maintained by its Product and Supply Chain Costing team. The cost figures in the [✂] were refreshed [✂] through an automatic global reformulation process. That process calculated the cost of each item based on a historic [✂] purchase

[617] Motorola response to Q14 of the RFI dated 16 December 2021, [✂]

average cost, or the last [✂] days (whichever was lower). The [✂] was also updated [✂] to include the cost of new part items. Motorola maintained that it always adopted that approach (ie the use of the [✂]) to establish the net production cost for all types of Tetra equipment.[618]

104 Motorola told us that it had used the June Model as a scenario planning model when contemplating how it was going to respond to the Home Office request to give it a price on an extension to the Airwave Contracts. That capex had been priced on the internal cost to Motorola of manufacturing its own equipment.[619]

Basis of transfer charging into Airwave Solutions

105 Motorola told us that Motorola's August Model had been prepared on the same basis as the statutory financial statements. All of Motorola's capex would be reflected at what Motorola internally calls the gross price, in other words on a third-party pricing basis. That, Motorola noted, had been the basis on which equipment had been purchased before Airwave Solutions had been acquired by Motorola.[620]

106 Motorola subsequently clarified that transfer charges into Airwave Solutions, the legal entity rather than the internal reporting unit, were calculated on one or other of the following two bases:

Motorola's 2012 Price Book for Airwave Solutions

Items[621] appearing in its 18-page Word document entitled 'Motorola / Airwave 2007 Agreement Price Book 2012' ('**The 2012 Price Book**') are priced in accordance with the prices set out therein.[622] Motorola explained that this price book was in place prior to Motorola's acquisition of Airwave Solutions and was still used at present.[623]

2015 derived mark-up rates added to net production cost

For all Motorola-sourced equipment purchases that were not catalogued by Motorola for Airwave Solutions in or up to

618 Motorola response to Q25a) of the RFI dated 16 December, [✂]
619 Motorola Hearing with the CMA on 10 February 2022[✂].
620 Motorola hearing with the CMA, 10 February 2022. [✂].
621 The 2012 Price Book not only sets out the price to Airwave Solutions for various items of equipment but also the charge out rates for various grades of Motorola personnel and also for the provision of training. We nevertheless refer to all these items in this context as 'equipment purchases'.
622 Motorola response to Q1e) to the RFI dated 16 February 2022, [✂]
623 Motorola response to Q1e) to the RFI dated 16 February 2022, [✂]

2012, Motorola now charges Airwave Solutions according to a pricing formula that seeks to replicate the approach Motorola took when seeking to provide a price to the Home Office for an interworking solution[624] in late 2015. Motorola uses mark-up rates on net production costs pegged to the rates used in the development of its pricing for that interoperability solution between the Airwave Network and ESN. As these rates were first utilised in 2015, they pre-dated Motorola's acquisition of Airwave Solutions.[625]

Motorola's list prices

107 Motorola had earlier told us that it did not give any discounts to Airwave Solutions off list price as the equipment it supplied was bespoke/tailored to the Airwave Network.[626]

Average mark-ups on equipment sourced from rest of Motorola

108 Motorola provided us with its latest capex forecast for the Airwave Network for the period 2021 to 2026 analysed by network refresh programme element and also year-by-year. Figures were prepared on two bases, the 'cost' figure based on the '[✂] materials only' costing approach and the 'transfer charge' based on either the 2012 Price Book or the mark-ups reflected within the 2015 interworking proposal. We have re-cast that information to generate the following table (Table H.6).

[624] The Home Office as part of the ESN Lot 3 contract had directly approached Motorola in 2015 to price up an interworking solution between the Airwave Network and ESN. This occurred before Motorola agreed to acquire Airwave Solutions.
[625] Motorola response to Q25b) to the RFI dated 16 February 2022, [✂]
[626] Motorola response to Q27b of the RFI dated 16 December 2021, [✂]

Table H.6: Rest of Motorola-sourced expenditure for Airwave Solutions network refresh capex programme 2021 to 2026 (all figures in £ millions unless otherwise indicated)

	Network refresh programme element	Cost	Transfer charge	% mark-up
[✂]	[✂]	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]	[✂]
	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]
	Total rest of Motorola-sourced capex	[✂]	[✂]	[✂] [250 to 300]

Source: CMA analysis which re-presents Motorola's latest capex forecast for the Airwave Network. Motorola's latest capex forecast [✂] was provided on 22 April 2022 in response to Q5 of the RFI dated 8 April 2022, [✂]

109 This analysis indicates that the most individually significant network refresh programme elements which utilise Motorola equipment are the replacement of the existing end-of-life Megastream circuits historically provided by BT and for base station upgrades. Mark-ups on materials costs/net production costs across each programme element vary considerably.

Motorola's margins on equipment sales to third parties

110 We asked Motorola to provide us with its global margins on the sales of TETRA/LMR products or equipment (excluding handsets) to third parties across the world averaged over the three-year period 2019 to 2021 inclusive. Costs for this calculation, so we requested, should be based on contemporaneous net production cost as per its [✂].[627]

111 We requested this information in order to compare the average level of mark-up on costs Motorola was recently able to achieve on sales of LMR equipment against that it achieved on the sale of other types of equipment and also to use these levels as a cross check against the mark-up levels Motorola is achieving when selling its equipment to Airwave Solutions.

112 In its response, Motorola provided a disaggregation of its margins between sales for 'Systems New MSI' and the rest of its business. Motorola explained that 'Systems New MSI provided the margins earned on sales of LMR

[627] Request 19 of the Motorola RFI dated 12 April 2022.

products excluding handsets. Motorola further explained that it had adjusted costs (and therefore margins) to include only costs that are included within the [✂].[628]

113 We have re-presented the information that Motorola provided and set this out in Table H.7, on which we make the following observations.

(a) We requested information on margins on the sales of equipment but Motorola has in fact provided us margins on the sales of equipment and sales of services based on that equipment combined; and[629]

(b) Not all costs reported within Motorola's cost of sales are captured in Motorola's [✂] costing system. The former included additional direct type costs such as 'product labour', 'intercompany profit elimination' and 'indirect overhead'.

[628] Motorola response to the Transfer Charges Working Paper, 27 May 2022. [✂]
[629] Motorola reconciled the figures provided to the aggregate of its two operating segments, namely 'cost of **products** sales', 'cost of **services** sales'.

Table H.7: Motorola's disaggregated global average sales margins and mark-ups on costs for 2019 to 2021 (all figures in $ millions unless otherwise indicated)

		'Systems New MSI'			*All other products / services*			*Total Motorola*		
		2019	2020	2021	2019	2020	2021	2019	2020	2021
= a	Net sales	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	7,888	7,414	8,171
= b	Materials cost (as per [✂]	[✂]	[✂]	[✂]						
a-b = c	Gross margin on materials cost (='mark up')	[✂]	[✂]	[✂]						
= d	Other (non-[✂]) direct costs	[✂]	[✂]	[✂]						
b+d = e	Total cost of sales	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	3,957	3,806	4,130
a-e = f	Gross margin (based on cost of sales)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	3,931	3,608	4,041
c/a x 100 = g	**Gross margin %** (materials cost)	[✂]	[✂]	[✂]						
f/a x 100 = h	**Gross margin %** (total cost of sales)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	50	49	49
c / b = i	**Mark up on materials cost** expressed as a multiple of materials cost	[✂]	[✂]	[✂]						
i x 100 = j	above expressed as a percentage	[✂]	[✂]	[✂]						
		[150 to 200 for the row above]								
f / e = k	**Mark up on cost of sales** expressed as a multiple of cost of sales	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	0.99	0.95	0.98
k x 100 = l	above expressed as a percentage	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	99	95	98

Source: CMA analysis which re-presents Motorola response to Q19 of the RFI dated 12 April 2022, [✂]

Assessment

114 The evidence that we have gathered does not allow us to assess robustly whether the prices charged to Airwave Solutions for Motorola capital equipment and labour can be considered to be arm's length. We note the following points:

(a) The Analysys Mason and Deloitte reports indicate that the cost of TETRA equipment has declined significantly over the last two decades. In this context, we are concerned that the use of outdated price books, ie those from 2012, may result in a higher price than may be justified in current market conditions.

(b) The mark-ups charged by Motorola to Airwave Solutions on capital equipment (which average [250 to 300] [✂]%) are materially higher than the average mark-up charged on sales of such equipment across Motorola as a whole over the 2018 to 2020 period (which average [150 to 200] [✂]%).

(c) The information provided does not allow us to assess whether the level of mark-ups charged on capex reflect current market conditions across the full range of capital purchased by Airwave Solutions. In particular, the mark-up charged by Motorola on the interworking solution[630] may not reflect the reasonable level that it might expect to earn on other projects and/or in other situations. We note that during its hearing Motorola explained that the (high) margin on the interworking solution was usual for software due to the need to recover R&D costs.[631] However, an internal Motorola email referred to the pricing of this solution as '[✂]'[632]

115 In response to our working paper on transfer charges Motorola told us that we had ignored completely that part of the interworking order that is associated with cost and equipment (to which the mark-up is applied) only accounted for only around [✂]% of the total contract value.[633] We however note that the email we refer to refers to 'delivery [of] the interworking capability to the scope, price and delivery timescales offered'.

Responses to the PDR

116 We received no comments from Motorola on our provisional view on this matter as set out in the PDR. The Home Office noted that, in contrast to the other areas we had analysed, we had not proposed to make any adjustment to equipment transfer charges. It submitted that, whilst we had provisionally found no robust evidence for making an adjustment, we equally had no reason to believe that these charges were truly estimated on an arm's length

[630] We note that different interworking arrangements have now been put in place. For analysis of the new interworking arrangements see section 5.
[631] Motorola Hearing with the CMA on 10 February 2022. [✂]
[632] Internal Motorola email, 17 February 2016. [✂].
[633] Motorola response to the Transfer Charges Working Paper, 27 May 2022, [✂]

basis. As a result there was a concern that the CMA had adopted a conversative assumption.[634]

Conclusion

117 We conclude that there are two basic approaches that would be valid to adopt here, one based on costs and the other based on external pricing. An approach based on mark-up on costs, which in principle would include a suitable return on its capital employed, would reflect a 'single Motorola' approach to its dealings with the Airwave Solutions. In other words, Motorola looks at the pricing of equipment through the lens of the incremental return it derives from Airwave Solutions. On this basis the selling of equipment and other capex could be seen as a secure add-on business to its operation of the Airwave Network. The other approach would be to price the equipment sales on the basis of margins/profits achieved on comparable third-party sales.

118 There appears to be no way for us to reliably narrow down what the range should be for the level of individual transfer charges for the array of equipment, some of which is customised to the specific requirements of the Airwave Network, that Airwave Solutions is acquiring from the rest of Motorola without also investigating the LMR equipment market. However, we note that, based on the evidence provided to us by Motorola, its external margins/mark-ups on TETRA/LMR based products appear to be somewhat lower than that it achieves elsewhere within its business.[635] Nevertheless, the mark-up levels it envisages achieving across the Airwave Network refresh programme on this type of equipment is significantly higher than for its external sales.[636]

119 While we consider that this evidence might suggest that the margins earned by Motorola on its sales to Airwave Solutions are higher than they would be if the parties were unrelated, we do not consider the evidence to be strong enough to make a specific adjustment. We acknowledge that this might result in a conservative figure, ie one in Airwave's favour in the context of our profitability and charge control work. We have, therefore, not made any adjustment to Airwave's capex forecasts in relation to the level of mark-ups (see Appendix G for a detailed discussion of the adjustments that we have made to those forecasts).

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[634] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 4.4.
[635] See paragraphs 110–113
[636] See paragraph 114(b)

APPENDIX I: IDENTIFICATION AND VALUATION OF FIXED ASSETS

Introduction

1 In section 6 we set out our assessment of the valuation of the assets Airwave Solutions employs in providing the Airwave Network. This appendix contains the evidence which we have considered on the various approaches to valuing Airwave Solutions' assets.

2 Airwave Solutions employs a range of tangible fixed assets and current assets in providing its network services. These are recognised on its balance sheet and we consider that they should be included in its capital base.

3 We asked Motorola whether there were any assets not included on the balance sheet that Airwave Solutions required to provide its services. Motorola told us that it believed this question became irrelevant when opening asset values are established on the basis of a proper modern equivalent asset value ('MEAV') looking at replacement costs rather than assets listed on the balance sheet.[637] Therefore, we have focused our analysis on the tangible fixed assets employed by the business.

4 We note that our analysis takes into account current assets and liabilities separately, as set out in Appendix G.

Evidence on replacement cost estimates

5 This subsection sets out the evidence we assessed on the potential value to the business of the assets of the Airwave Network. The Analysys Mason report was prepared during our investigation whereas the other pieces of evidence that we have considered were prepared prior to our investigation. This evidence includes:

(a) An expert report dated 28 February 2022 from Analysys Mason estimating the total replacement cost of the Airwave Network;[638]

(b) An expert report, prepared by Deloitte for Motorola, on the fair market value of Airwave Solutions' assets.[639] This report was dated 3 August 2016 and was prepared 'to assist in estimating the fair value of certain intangible assets acquired and liability assumed from Airwave Solutions Ltd… for financial

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[637] Motorola's response to the profitability methodology working paper, 10 January 2022, paragraph 34.
[638] Analysys Mason report for Motorola, 28 February 2022. [✂]
[639] Deloitte report for Motorola, 3 August 2016. [✂]

reporting purposes'. This gave a 'fair market value' of Airwave Solutions' assets of £[✂] million; and

(c) An internal Motorola email, dated 31 January 2017 and titled 'Airwave Acquisition Valuation', setting out [✂] ([✂], Motorola) views on the replacement cost of the Airwave Network assets.[640] This suggested that the replacement cost at fair market value of the network's assets was $[✂] million, or approximately £[✂] million at exchange rates at that time.[641]

Analysys Mason Report (2022)

6 Analysys Mason was commissioned by Motorola to develop a modern equivalent asset (MEA) assessment of the Airwave Network. The MEA valuation considered the capex and opex expected to be incurred through deployment and operation of a modern equivalent Airwave Network between the extension period of 1 January 2020 and the current Airwave national shutdown date (NSD) of 31 December 2026. The report also considered potential use cases beyond the NSD and assumed a sale of useful passive assets (towers) to partly offset the decommissioning costs.[642]

7 Analysys Mason explained that the MEA valuation required costs to be modelled based on the principles of providing a replacement network with the same functionality and capacity, noting the following assumptions:

TETRA technology provides the necessary quality for the contracted service and mitigates the need for end-user terminal replacements and re-training;

the same number of base stations as utilised today is assumed, so as to offer the same nationwide voice coverage;

all build capex is assumed to be incurred prior to operation on day one.[643]

8 Analysys Mason's MEA results are shown in Figure I-1 below.

[640] Internal Motorola email, 31 January 2017. [✂]
[641] Exchange rate of $1.26 to £1 as at 31 January 2017.
[642] Analysys Mason report for Motorola, 28 February 2022, [✂].
[643] Analysys Mason report for Motorola, 28 February 2022, [✂]

Figure I-1: Analysys Mason MEA assessment for Airwave Solutions capex and opex

[✂]

Source: Analysys Mason Report, slide 7.

Figure I-2: Analysys Mason break-down of capex estimate (total and 'other' capex)

[✂]

Source: Analysys Mason Report, slides 11 and 20.

9 Analysys Mason estimated total capex of £[✂] million to replace the Airwave Network, plus a further £[✂] million of opex to be incurred during the set-up period, ie a total MEAV of £[✂] million. Their analysis assumes that substantially no further capex is required after the initial set-up period until 2026. Of this £[✂] million total, £[✂] million was based on the gross book value ('GBV') of certain assets (IT assets, tools, spares etc), as set out in Airwave Solutions' Fixed Asset Register.

10 With respect to opex, Analysys Mason estimated that this should be in line with Airwave Solutions' current opex forecasts for the period 2020 to 2026.

CMA discussion of Analysys Mason Report

11 We note that the Analysys Mason Report makes a number of assumptions that appear to us to be questionable. In particular, the CMA has concerns that:

(a) The assumption of TETRA as the replacement technology is likely to inflate the cost base materially in comparison with an LTE solution which would benefit from significant economies of scale;

(b) The active equipment cost estimates adopted by Analysys Mason appear high, with [✂]; and

(c) The opex costs, particularly the transmission costs, assumed for a new network appear high.

12 However, in carrying out our analysis, we have not sought to adjust for these issues as we consider that it would be difficult for us to do so robustly given the expert technical/engineering knowledge required.

Deloitte Report (2016)

13 Deloitte produced estimates of the replacement cost new ('RCN') and the fair value of the base stations and switch sites of the Airwave Network. As of February 2016, these assets comprised around 85% of total assets employed by Airwave

Solutions, as measured by their original acquisition cost. It was directed by Motorola to assume that the fair value of the remaining assets (non-network assets and network assets attributable to the base stations or switch sites) was equivalent to net book value.

14 On this basis, Deloitte estimated the RCN of the network assets to be £[✂] million, and the fair value of these assets to be £[✂] million. This compared with a GBV of these assets of £[✂] million and a NBV of £[✂] million.[644] Those assets which were not revalued by Deloitte had an acquisition cost of £[✂] million and a NBV of £[✂] million. Overall, therefore, Deloitte found the fair value of Airwave's assets to be £[✂] million, compared with a total NBV of £[✂] million.

15 Deloitte's report explains the valuation approach that it took to 'personal property assets' as follows:

> We considered and evaluated the three traditional approaches to value the intangible asset: the income approach, the market approach, and the cost approach… We relied on the cost approach, specifically the replacement cost new ("RCN") approach because we believe
>
> (1) this approach was appropriate for the valuation analysis, and
>
> (2) sufficient information was available for its use.
>
> We did not rely upon either the income approach or the market approach, because we did not consider it to be applicable to the analysis, and because we determined that the collected data was insufficient to achieve credible results.
>
> The method was selected for the following reasons:
>
> - RCN data was readily available for the Personal Property Assets
> - RCN is typically the starting point for the Cost Approach to value
> - RCN is defined as the current cost of a similar new property having the nearest equivalent utility as the property being appraised. RCN incorporates such things as improvements in design, layout, process flow, or improved technology.

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[644] The gross book value of the assets will reflect the total cost incurred by Airwave in building/developing and maintaining the Airwave network from its inception to the date of the report, ie 2016. The net book value of the assets reflects a combination of the GBV and the depreciation policy selected by Airwave Solutions.

RCN is typically the starting point for the cost approach because a prudent investor would not spend excess funds to simply duplicate the existing asset if the same utility can be obtained for less cost (ie, the principle of substitution).[645]

After estimating an RCN, additional adjustments are necessary to account for other forms of depreciation resulting from physical deterioration, functional (or technical) obsolescence, and economic (or external) obsolescence. These are defined as follows:

- Physical deterioration is the loss in value or usefulness of a property due to the using up or expiration of its useful life caused by wear and tear, deterioration, exposure to various elements, physical stresses, and similar factors.
- Functional obsolescence is the inability of the property to adequately perform the function for which it is utilized. Alternately, it is the loss in value or usefulness of a property caused by inefficiencies or inadequacies of the property itself, when compared to a more efficient or less costly replacement property that new technology has developed.
- Economic obsolescence, sometimes called "external obsolescence," is the loss in value or usefulness of a property caused by factors or economic forces external and unrelated to the property itself.

RCN was developed using cost estimates for installed assets provided by Management. To arrive at an indication of value, the estimate of RCN for each asset was adjusted for physical deterioration and obsolescence.[646]

16 The results of the Deloitte analysis are set out below for base station assets and switch sites. Figure I-3 shows which of Airwave Solutions' assets Deloitte revalued and which were assumed to be carried at NBV.

[645] Deloitte report for Motorola, 3 August 2016, [✂].
[646] Deloitte report for Motorola, 3 August 2016, [✂].

Figure I-3: Fair value analysis for Base Station Assets

[✂]

Figure I-4: Fair value analysis: switch site assets

[✂]

[✂]

Figure I-5: Deloitte summary of asset values for Airwave Solutions

[✂]

Source for Figures I-3.I!-4 and I-5: Deloitte report for Motorola, 3 August 2016. [✂]

17 The combined RCN for those assets that have been fair-valued and the GBV of those assets that have not been separately assessed by Deloitte, gives a total replacement cost of Airwave's assets of £[✂] million as of 2016. However, we note that £[✂] million of this sum is simply the historical acquisition cost of certain assets that have not been fair-valued and that many of the assets included in this figure are likely to have reduced significantly in price in the intervening years. For example, it includes £[✂] million of [✂], £[✂] million of [✂] and £[✂] million of [✂].

18 Between 2016 and the end of 2019, we note two potential offsetting effects on the valuation of assets. First, Airwave Solutions incurred a further £89 million[647] of capex over this period, which would have increased the fair value of the asset base, although would (presumably) not have affected the RCN. Second, the rest of the asset base would have continued to decline in value due to physical, technological and economic obsolescence, as set out by Deloitte in its report. We consider the net effect of this below.

Motorola's internal documents

19 As part of our evidence gathering, we collected a large number of internal documents from Motorola in relation to its investment in Airwave Solutions. One email, sent by [✂] ([✂], Airwave Solutions Limited) and dated 31 January 2017 stated:

> I have spoken to [✂] and [✂] - this is all they have from [✂] for the valuation of the Airwave network:
>
> Replacement Costs (at FMV)

[647] Airwave Solutions published accounts 2016 to 2019 inclusive.

3800 base stations (MSI product) --> $[✂]M

3800 base station sites (cooling, antenna, UPS & batteries, labour) --> $[✂]M

3600 dispatcher interfaces (CCI ports) --> $[✂]M

102 core switching zones (product & install) --> $[✂]M

TOTAL --> $[✂]M

They now need supporting price list/invoice evidence that comes back to these values. I am not sure how to proceed without [✂] and how he arrived at these valuations.

20 This email suggests a total replacement cost (at fair value) of the Airwave Network of approximately £[✂] million. This is significantly above the fair market value (FMV) estimated by Deloitte and significantly below Deloitte's estimate of the RCN of the Airwave Network. It is unclear what the basis of this estimate was or for what purpose these estimates were prepared.

Parties' submissions on replacement cost evidence

21 In our Profitability Working Paper and our PDR, we set out the provisional view that, to the extent that the replacement cost approach, rather than the recoverable value approach, was appropriate, we should place most weight on the Deloitte Report in terms of coming to a view on the value of Airwave Solutions' network assets in their existing state, noting that this report was prepared for Motorola / Airwave Solutions in the normal course of business, and that we should use the associated opex and capex forecasts prepared by Airwave Solutions and based on the costs of running and maintaining the network that it contains. This report estimated the fair value of the asset base in its state as of mid-2016 to be £[✂] million. We adjusted this by adding all additional Airwave Solutions' capex from 2016 to 2019 inclusive and depreciating the overall asset base, assuming a 10-year useful economic life. This gave an asset value of £[✂] million as of the end of 2019.

22 In its response to our working papers on profitability and the cost of capital, Motorola made the following points:[648]

[648] Motorola's response to the CMA's working paper on Profitability and the Cost of Capital, 20 May 2022, paragraph 30 onwards.

(a) The purpose of the Deloitte report was to provide an estimation of the fair value of certain intangible assets acquired and liability assumed from Airwave Solutions for financial reporting purposes;

(b) It told us that our approach of rolling forward the 2016 Deloitte figure to 2019, which it called applying a correction for technical deterioration and obsolescence to RCN, ie using depreciated replacement cost (DRC) may be appropriate for an adjustment of net book values for accounting purposes, but did not make much sense from an economic perspective. Motorola highlighted the UK government's own guidance on asset valuation, the Government Financial Reporting Manual, which gives directions on preparing government annual reports and accounts, which states that:

> DRC should only be used as a last resort. It should be used only where there is no useful or relevant evidence of recent market transactions due to the specialised nature of the asset … Where DRC is being used to value specialised property (regardless of whether or not the property is historic or listed), it will rarely be appropriate to cost a modern reproduction of the asset (i.e. using an identical replacement or modified reconstruction approach). The value of the property should normally be based on the cost of a modern equivalent asset that has the same service potential as the existing asset and then adjusted to take account of obsolescence.

(c) It stated that the Deloitte approach did not consider what would actually be needed to construct a replacement network. For example, it does not consider internal staff costs etc. Further, Motorola notes that some of the cost estimates appear very low, eg £[✂] per tower whereas in Motorola's view an estimate of upwards of £[✂] would be closer to a fair price in the UK. Some cost items may be missing, for example backhaul, and the sampling approach (on which there are few details) may ignore that there is typically a long tail of very high-cost sites (eg sites that require construction of access road etc.); and

(d) Airwave Solutions did not in fact write-down its assets to the fair value estimate provided by Deloitte.

23 Motorola submitted that we had dismissed Motorola's email evidence without seeking further clarification on the basis for the estimates contained therein.

24 The Home Office submitted that we had noted that the assumption of Analysys Mason to use TETRA as a replacement technology may inflate the cost base materially but did not appear to have addressed this reservation for Deloitte's replacement cost estimate. Further, the Home Office highlighted that we had adjusted Deloitte's asset valuation to account for the changes between 2016 and

2019 – namely, for any additions to, and depreciation of, the asset base – and that these adjustments lead to an increase in the asset value in 2019 relative to 2016. The Home Office noted that over this period, its understanding was that CAPEX was £89m, while accounting depreciation on network equipment alone was over £240m. This suggested a reduction in value may have been appropriate.[649]

CMA assessment of replacement cost evidence

25 We noted Motorola's submissions on the accuracy of the Deloitte Report and its comments on the levels of certain costs used therein. However, first we observed that the Deloitte Report states in several places that its replacement cost figures/assumptions with either prepared by or approved by 'Management', which we take to be the management of either Motorola or Airwave Solutions. Second, we observe that the two reports (prepared by Analysys Mason and by Deloitte) provide broadly similar estimates of the **new** replacement cost of Airwave Solutions' assets (assuming that TETRA is the most appropriate MEA), ie around £[✂] million. This suggests that the overall level of the RCN as estimated by Deloitte is reasonably accurate, or, at least, not materially different from the Analysys Mason estimates.

26 Furthermore, on the basis of Management provided or approved assumptions, Deloitte estimates the obsolescence of the assets reduces their fair value, as of mid-2016 to £[✂] million. We note in this context that this detailed report was prepared independently and outside the context of our market investigation and hence we consider that it is less likely to be influenced by Motorola's interests in the context of such an investigation. In contrast, the Analysys Mason report was prepared specifically for submission to us in the context of our investigation.

27 We observe that the government guidance as set out in paragraph 21 above appears entirely consistent with the approach that Deloitte has taken – estimating DRC in the case of a specialist asset (which the Airwave Network is), considering the modern equivalent asset cost[650] and then applying an adjustment for obsolescence. We note that Motorola has not submitted any evidence of recent market transactions with respect to the Airwave Network assets, which might suggest an alternative value, and that its estimates of the residual value of these assets (as set out in paragraph 35) are very significantly lower than the Deloitte fair value figure.

28 We note that the Airwave Network is ageing and Motorola has submitted that it now requires significant investment in maintaining and replacing elements of it in

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[649] Home Office's submission and response to working papers, 24 May 2022, paragraph 42.
[650] To the extent that Deloitte is considering an old like-for-like replacement, as noted in the previous paragraph, the cost estimate is the same as Analysys Mason's MEAV estimate.

order to ensure its continued functionality. For example, Airwave Solutions is forecasting £[✂] million of capital expenditure between 2020 and 2026.[651] In keeping with these estimates, at the site visit that we attended at Airwave Solutions' premises on 30 November 2021, [✂] highlighted the age and obsolescence of the Airwave Network and the technological challenges associated with maintaining the resilience of the network in that context.[652]

Figure I-6: Airwave Solutions site visit, slides on network issues

[✂]

[✂]

Source: *Airwave Site Visit Slides. [✂]*

29 This evidence supports the view that the existing asset base suffers a high level of obsolescence and this is consistent with the valuation set out in the Deloitte Report.

30 For these reasons, we conclude that the most reliable approach in terms of identifying a replacement cost is to value Airwave's network assets in their existing state, drawing on the Deloitte report which was prepared for Motorola / Airwave Solutions in the normal course of business, and to use the associated opex and capex forecasts[653] prepared by Airwave Solutions and based on the costs of running and maintaining the network that it has. This ensures consistency across all elements of our analysis. On this basis, we observe that the value placed on Airwave Network assets was around £[✂] million as of mid-2016. Between 2016 and 2019, Airwave Solutions incurred further capex of £89 million, which should be added to the replacement cost of the assets as of the end of 2019. However, the existing assets would also have continued to depreciate in value due to physical, technological and economic obsolescence. For the purposes of our analysis, ie to come to a view on asset value as of the end of 2019, we have assumed that all existing and new assets are depreciated over a 10 year useful economic life. [✂].[654] This produces an asset value of approximately £[✂] million as of the end of 2019.

31 We considered the Home Office's submission that our approach increased the value of Airwave Solutions' assets over this period, whereas actual depreciation charged would have resulted in a reduction in the asset value. However, we

[651] Motorola financial model, 31 August 2021. [✂]
[652] Motorola site visit.
[653] We note that we have made some adjustments to Airwave Solutions' opex and capex forecasts based on our review of the business' transfer pricing policies and other internal documents. See Appendix G and Appendix H for further details of these adjustments.
[654] Motorola site visit.

conclude that this comparison is not apt as our analysis starts with Deloitte's Fair Value figure and takes into accounts additions and a re-calculated depreciation schedule, whereas Airwave Solutions did not write down its NBV to reflect Deloitte's Fair Value, choosing to keep its pre-existing NBV (which was approximately twice the level) and then charged depreciation against that higher figure. We note that an approach of using Airwave Solutions' NBV as of 2016 (of £[✂] million), charging accounting depreciation of a further £240 million against it and then adding on £89 million of capex produces a very similar figure (£[✂] million) to that arrived at from our approach of using fair value and adjusting for subsequent capex.

32 We also considered the Home Office's submission that the Deloitte Report's use of TETRA equipment may inflate its RCN estimates. We agree, in principle, with this objection. However, we note that we do not have access to any alternative estimates based on a lower cost technology which we could use in our analysis. We consider that this suggests that our depreciation replacement cost estimate may be somewhat inflated. However, it remains the most reliable estimate that we have. We consider alternative approaches to asset valuation, including recognising only the value of that capex incurred in order to provide services beyond 2020, as well as the Home Office's own suggestion on estimating the VTB of the assets as of 2016 elsewhere in order to come to a balanced overall view on asset values.

33 We note Motorola's submission that the CMA should have made further inquiries regarding the figures set out in [✂]'s email, but Motorola did not accompany its submission on this matter with any further argumentation or evidence in that respect. Nor did it provide any further submission in response to our specific invitation to do so on this point in the PDR. As a result, we have not placed weight on this evidence.

Evidence on residual and/or alternative use value

Parties' submissions on residual value

34 We asked Motorola what value it would place on the Airwave Network once customers had switched to ESN. Motorola told us[655] that it had focused its efforts on the tower sites, as they provided the biggest potential to be monetised upon customers' switch from the Airwave Network to ESN and were estimated at over [✂]% of 2020 NBV. It told us that the remaining fixed assets (such as, for example, furniture and fittings, motor vehicles, computer hardware and software,

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[655] Motorola response to Q31 of the RFI dated 16 December 2021.

networking equipment and switches), were relatively low in value (especially with regard to re-sale value) and that a plan would be made in due course as to what would happen to these assets when the Airwave Network was shut down.

35 Motorola told us that each attractive tower site was valued at £[✂] to £[✂], meaning a total value of approximately £[✂] million (based on [✂] attractive sites), and that this amount was gross of any fees that would be required to progress any transaction for example professional advisor fees, legal fees to transfer the leases.[656]

36 Motorola told us that a tower site would be deemed 'attractive' if it was suitably located, which depended on:

(a) Whether [✂];

(b) Whether [✂].

37 In a later response,[657] Motorola clarified that the value of £[✂] to £[✂] was based on the discounted cashflow of the income the tower may receive, minus the opex (ie ground rent and maintenance costs) and minus the re-build capex (Motorola told us that the Airwave towers were generally too small to host mobile network operator (MNO) equipment). The valuation was prepared by Analysys Mason in a report entitled 'Modern equivalent asset valuation of the Airwave network'[658] and a supporting document entitled 'Analysys Mason valuation commentary for the CMA process.'[659] The report and commentary set out two main potential use cases for the Airwave Network post NSD: option one was the carve-out and selling of the passive infrastructure for mobile TowerCo use, and option two was the reconfiguration of the network for private mobile radio (PMR) use. Option one would be the preferred option whereas option two would not make economic sense.

38 In a divestment of the passive infrastructure, according to a detailed bottom-up geographic analysis, approximately [✂]% of Airwave Solutions' owned portfolio ([✂] sites) were in locations potentially attractive to MNOs in the market and could gain an MNO anchor tenancy. These could potentially command a valuation of £[✂] to £[✂] per site, based on the present value of an attractive site's expected perpetual cashflow once capex had been recovered. Each site could provide a tower cashflow (revenue less ground-lease) of £[✂] to £[✂] per site, [✂].

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[656] Motorola told us that the transfer of leases in some cases was subject to landlord consent which may impair the valuation to the extent a landlord does not consent to the transaction.
[657] Motorola response to Q31 of the RFI dated 16 February 2022.
[658] Analysys Mason report for Motorola, 28 February 2022, [✂]
[659] Submission from Analysys Mason to the CMA, 17 January 2022. [✂]

(a) There were some costs regarding the sale: in order to host an MNO anchor tenancy, the sites would need to be rebuilt which would incur significant capex (£[✂] per site); sites would also take time to be leased-up to MNOs, therefore providing negative cashflows until co-located in the absence of an Airwave Network anchor tenancy. The high capex requirement and lack of anchor tenancy positioned the sale more towards that of a portfolio of land banks as opposed to a tower sale and therefore would not command the same valuations seen for other portfolios in the market. Analysys Mason assumed that the rest of the portfolio would have to be decommissioned at NSD.

(b) The value of the Airwave Network's physical infrastructure was also dependent on the timing of the sale; the portfolio was ideally positioned to enhance MNOs' rural coverage, which was of focus in the MNOs' shared rural network (SRN) initiative with the UK government. SRN deployment had already begun and was likely to run for the next ten years. The further out the sale of the Airwave Network's assets, the less of this SRN demand the portfolio would be able to capture. Assuming the sale of the portfolio did not occur until 2026, it was quite likely that a number of the attractive locations identified in Analysys Mason's report would have been overbuilt – reducing the number of sites that could be sold off and therefore the value of the portfolio.

(c) Motorola told us that the Airwave Network was a possible candidate for PMR use across the nation. However, there was no significant demand for nationwide PMR use in the UK.[660] Motorola's commentary suggested the reasons why there may be little demand for PMR services for a repurposed Airwave network: firstly, mobile coverage was already very well established making it a cheaper alternative to PMR and mobile could provide good enough coverage to compete with the Airwave Network's nationwide PMR services. Secondly, where organisations existed that needed the type of PMR functionality provided by the Airwave Network, the geographic scope of those organisations was much more limited. Thus, the PMR requirement could be fulfilled through a dedicated private network in the specific location (eg London Buses, Heathrow Airport). These localised private networks were more cost effective that the full nationwide network that the Airwave Network provided. In addition, these private networks were already built (capex had

[660] We note that BT said 'Airwave is not a commercial communication system. Its whole purpose is to improve the safety of the general public and, ultimately, save lives'. Annex B to the minutes of evidence of the PAC 22 April 2002

been spent), so decommissioning the private network in favour of a PMR rental model with Airwave Solutions would not make economic sense.

39 Motorola told us that it expected the sites to be sold to an existing TowerCo (ie a company which strategically purchases cell towers).[661] Outside of either an existing or newer TowerCo, Motorola told us that it considered that financial sponsors in the form of private equity funds could also have an interest in Airwave Solutions' tower sites.

40 Motorola provided us with a 2015 report called 'Project Panda II independent review' prepared by EY[662] which estimated a range of £[✂] million to £[✂] million for the sale of certain towers to a TowerCo. Management's estimate was lower, at £[✂] million to £[✂] million, primarily because of different assumptions. The report noted that any assessment of potential value was highly sensitive to a number of key factors.[663] The report also noted that, as other operators built out their own networks over the following 12-24 months, the potential value of the Airwave tower network to a TowerCo was likely to materially reduce. We asked Motorola if it could explain the difference between the valuation contained in the Project Panda II review (£[✂] million to £[✂] million) and its estimate provided in response to our RFI in December 2021 (£[✂] million). It told us that the value ascribed in the 2015 review was very sensitive to the assumptions made (in particular the number of tenants that might be achieved), and that this explained the large difference between the view expressed by EY (the party who conducted the review) and management at the time. Motorola suggested that the additional network build by MNOs and TowerCos that had taken place since 2015 would have in all likelihood reduced the number of sites that would be attractive sales targets and that this explained the reduction in the value attributed to the option of selling sites to TowerCos.

CMA's assessment of residual or alternative use value

41 We noted that the internal evidence on the residual or alternative use value of assets gave a relatively broad range of values, with the most recent estimate prepared by Motorola being significantly lower than earlier estimates. However, we found the reasoning provided for this decline in value to be coherent, ie the reduction in average site value as further tower sites were rolled out across Great Britain, and noted that the 'Project Panda' estimates were prepared around seven

[661] Motorola gave examples of TowerCos which it was aware were interested in Airwave's tower sites: [✂].
[662] EY report, 27 May 2015, page 12. [✂]
[663] Factors included terms of Airwave Solutions' leaseback of towers and length of anchor tenancy, achieving competitive tension around a sale process, bidders' view on multiple tenancy potential of towers, capex required to extend network life, linked to valuation term assumed, and operating costs avoided by Airwave Solutions in view of transfer of tower ownership.

years ago. Therefore, we conclude that the most reliable estimate of residual or alternative use value is the £[✂] million figure as estimated by Motorola.

Assessment of Motorola's returns from 2016 onwards

42 Finally, we considered the Home Office's suggestion that we take the amount paid by Motorola for Airwave in 2016 and assess the returns that Motorola expected to earn on this to the end of 2019 and consider how expected returns change with the extension of the contract beyond 2019.

43 We note that the February 2016 purchase price of around £[✂] million by Motorola for Airwave[664] should provide an upper limit to the recoverable amount[665] of those assets at that date since it reflects what investors were prepared to pay for the business achieved via a competitive sales process.

44 To the extent that the recoverable amount of the assets has increased since 2016, this must be the result of the extension of the life of the Airwave Network and the potential to earn economic profits over that period, which represents a 'windfall gain' and we do not consider that it would be appropriate to capitalise in the asset valuation as this would introduce a circularity to the analysis.

45 We have, therefore, compared this purchase price with the amounts actually recovered by Motorola between 2016 and the end of 2019. This analysis is set out in Table I-1 below. It suggests that:

(a) Motorola recovered its investment, taking into account a nominal pre-tax WACC of between 6% and 9% by the end of the original PFI period, ie late 2019/early 2020. This finding is broadly supported by Motorola's own analysis of the profitability of its investment at the 'five year anniversary' of the purchase.[666]

(b) The VTB of the Airwave Network assets at the end of 2019 would have been relatively low in the absence of a material further extension and the ability to earn supernormal profits over that extension period. As noted above, we consider any such uplift in the recoverable amount of the Airwave Network assets from such an extension represents a 'windfall gain', which should not be included in its asset base.

[664] Deloitte report for Motorola, 3 August 2016. [✂]
[665] In this case, this 'recoverable amount' is the 'value in use' of the assets.
[666] Motorola internal presentation, 18 February 2021. [✂] We note that the slightly longer 'payback' period, ie the 5 years from purchase to 2020, appears to be the result of taking into account tax expenses, interest expenses and, potentially, exchange rate movements (as this analysis is presented in US$ terms).

Table I.1: Table I-1: Analysis of Motorola's returns on its investment in Airwave Solutions

WACC	NPV to Dec-19	NPV to Dec-20
6.25%	[✂]	[✂]
8.8%	[✂]	[✂]

Notes: the 6.25-8.8% pre-tax nominal cost of capital reflects the mid-point to upper end of the range of estimates set out in Appendix J for the post-PFI period.

APPENDIX J: COST OF CAPITAL

Introduction

1 In this appendix we set out our assessment of an appropriate cost of capital for the Airwave Network in two related but distinct contexts:

(a) First, we identify an appropriate cost of capital as the benchmark against which to assess the actual and expected profitability of the business over the 2020 to 2029 period;

(b) Second, we consider how and to what extent this assessment should be varied in the context of setting an appropriate allowance for a return on capital in the context of our charge control for Airwave for the period of mid-2023 to 2029.

2 We also present an estimate of the cost of capital for the business in the 2001 to 2019 period. We note that we have not focused on that period for the purposes of our profitability analysis and therefore only make some high-level observations in this respect.

3 The approach to assessing profitability, as set out in our Guidance[667], is to compare the profits earned with an appropriate cost of capital. In this Appendix, we set out our assessment of the nominal pre-tax weighted average cost of capital (WACC) for the Airwave Network. As set out in Section 6, we are primarily assessing the profitability of the Airwave Network over the period from 2020 to 2029, although we have also estimated actual returns over the earlier 2001 to 2019 period. Therefore, we have estimated the cost of capital on three bases:

(a) At the start of the 'historical' or 'PFI' period, ie around 1 April 2001; and

(b) As of late 2019/early 2020, ie at the start of the 'post-PFI' period. This is the cost of capital that we consider is of primary relevance to our profitability analysis since it provides the benchmark for the 'post-PFI' period.

[667] Guidelines

(c) As of mid-2023, ie at the start of the charge control period and taking into account the protections provided to Airwave as part of that control.[668] (See Section 8 and Appendix K for further details of the charge control design).

4 In coming to a view on the WACC of the Airwave Network at these different points in time, we note that some elements of the WACC estimate, such as the relevant beta value and total market return (TMR) are often assumed to be stable over time, while other elements, such as the risk-free rate, the tax rate and the cost of debt are assumed to fluctuate. Our approach reflects this, with constant values being assumed for beta and TMR, based on the most up-to-date data and understanding of these parameters, while we have reflected changes in broader market costs for the other elements of the WACC.

5 In addition to estimating a WACC on the bases set out above, we have also considered the appropriateness of using a higher hurdle rate as the benchmark against which to assess the profitability of the Airwave Network and/or as an uplift to WACC when estimating an appropriate return under a charge control. We discuss our analysis and conclusions in this respect further in paragraphs 84 to 88 below.

6 Our assessment of the WACC for the Airwave Network in the two periods is set out in Table J-1.

[668] For example, the charge control provides protection for Airwave Solutions in case of: i) termination of the contract prior to 2029 in the form of a payment for any undepreciated portion of the regulated asset base, ii) an additional risk allowance of £28 million to cover potential higher capex spend than forecast, iii) a cost-sharing mechanism that permits for the recovery of 25% of any external capital spend over and above the forecast level; and iv) a review of the charge control level in 2026, which could provide for further capital or operating allowances if Airwave provides supporting evidence of the need for such expenditure.

Table J-1: CMA estimates of nominal pre-tax WACC

	Estimate for 'PF'I' period (as of April 2001)		Estimate for 'post-PFI' period (as of late 2019 / early 2020)		Estimate for the charge control period	
	Low	High	Low	High	Low	High
RFR (CPI-real)	2.5%	3.0%	-2.0%	-1.0%	0.5%	0.7%
Equity beta[669]	0.60	0.76	0.35	0.55	0.35	0.55
TMR	6.2%	7.5%	6.2%	7.5%	6.2%	7.5%
CPI Inflation	2.0%	2.0%	2.0%	2.0%	2.0%	3.0%
Tax	30%	30%	22%	22%	25%	25%
Gearing	50%	35%	0%	0%	0%	0%
Kd pre-tax	6.5%	6.5%	2.5%	N/A	N/A	N/A
Kd post-tax	4.6%	4.6%	1.9%	N/A	N/A	N/A
Ke post-tax	6.8%	8.5%	2.9%	6.8%	4.2%	7.7%
Ke pre-tax	9.7%	12.2%	3.7%	8.8%	5.6%	10.3%
WACC Pre-tax (nominal)	**8.1%**	**10.2%**	**3.7%**	**8.8%**	**5.6%**	**10.3%**

Source: CMA analysis

7 In carrying out our analysis, we have drawn on evidence from internal documents prepared by and for Airwave Solutions and Motorola, the CMA's recent redetermination of the cost of capital for water companies in Great Britain and its hearing of the energy appeals, together with broader market evidence.[670] In addition, we have taken into account submissions received from Motorola and the Home Office in response to our working paper and to our provisional decision report.[671]

8 The remainder of this section sets out our methodology and the analysis we have conducted. As set out in our Guidance,[672] we generally look to the capital asset pricing model (CAPM) when considering the cost of capital, and this is the approach we have adopted in estimating the cost of equity for the Airwave Network. We have estimated the cost of debt with reference to corporate bond yields over the period, as well as evidence gathered from Airwave Solutions and Motorola on their costs of debt.

[669] Note: the equity betas differ slightly due to the differing tax and gearing rates. The underlying asset beta range is the same across both time periods (a range of 0.35-0.55).
[670] See CMA (2021), Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations final report and CMA (2021), Energy Licence Modification Appeals
[671] See Home Office submission and response to working papers, 24 May 2022, Motorola's response to the CMA's working papers on Profitability and the Cost of Capital, 20 May 2022.
[672] Guidelines, Annex A, paragraph 16.

General approach to estimating the WACC

9 There are several factors that we have taken into account in estimating an appropriate benchmark cost of capital for the Airwave Network. These include:

(a) how to estimate the WACC – use of the capital asset pricing model (CAPM);

(b) which cost of capital provides an appropriate benchmark – specification of the basis of the WACC;

(c) over which time period(s) should the cost of capital be measured – at the start of the relevant period(s), or an average for the relevant period(s)?; and

(d) whether an appropriate benchmark for returns should be a simple WACC, or 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.

Capital asset pricing model

10 Our Guidance highlights that we generally use the CAPM when considering the cost of equity since this is a widely understood technique with strong theoretical foundations.[673]

11 The CAPM relates the cost of equity E[Ri] to the risk-free rate (Rrf), the expected return on the market portfolio (Rm), and a firm-specific measure of investors' exposure to systematic risk (beta or β) as follows:

$$E[Ri] = Rrf + \beta(Rm - Rrf)$$

12 If a business were entirely funded by equity, the expected return on equity could be considered to be its 'cost of capital'. However, most firms are funded by a combination of both debt and equity, such that the appropriate cost of capital to consider is the weighted average cost of debt and equity. The WACC is given by the following expression:

$$WACC = E[Ri] \times E/(D+E) + Kd \times D/(D+E)$$[674]

13 Finally, the cost of capital must take into account the effects of tax on returns to capital providers. The returns to debt holders take the form of interest payments which are usually tax-deductible. The returns to equity holders (dividends), on the other hand, are taxed. Hence, where the cost of capital is expressed 'pre-tax', the

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[673] Guidelines, paragraph 116.
[674] Where D is debt, E is equity and Kd is the cost of debt.

cost of equity used must reflect the fact that the actual return to shareholders will be reduced by the rate of tax. We have estimated the cost of capital on a nominal pre-tax basis:[675]

$$\text{Pre-tax WACC} = [(1/(1-t)) \times E[Ri] \times E/(D+E)] + [Kd \times D/(D+E)]$$

Specification of the basis of the WACC

14 In keeping with the theoretical basis of the CAPM, our approach seeks to estimate the WACC of the Airwave Network itself, which is invariant to the larger corporate group of which it may form a part. That ise we consider the relevant WACC to be that of the Airwave Network rather than that of Motorola or of any previous owners, such as Macquarie or BT.

15 Our profitability analysis seeks to measure the returns earned by all sources of capital invested in the business. As these returns are measured before interest and/or tax is paid, they are not affected by the capital structure of the business.[676] However, in estimating the relevant WACC for the Airwave Network, we rely on a variety of market-based evidence, which will reflect the capital structures of the businesses used as comparators. Where relevant, we have used this data to come to a view on the appropriate capital structure for the Airwave Network (ie its gearing level), as well as adjusting beta estimates to ensure consistency with this conclusion on gearing.

16 We have measured the WACC of the Airwave Network with reference to a range of potential comparator firms, as set out in Table J.3. The choice of comparators is a matter of judgement with the range of comparators reflecting various attributes of the Airwave Network, including industry (telecoms), the utility nature of the business, its geographical location etc.

Relevant time period

17 We are analysing the profitability of the Airwave Network over the period between 2001 and 2029, with a primary focus on the 2020 to 2029 '"post-PFI' period. This period spans both the past, for which actual data is available on both the Airwave Network's performance and the costs of capital available in the market, and the future, for which we must use forecast information with respect to both the Airwave Network's likely profits and the expected cost of capital.

18 We note that there is some uncertainty regarding the 'end date' of the analysis as the Home Office has the right to require an extension of the life of the Airwave

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[675] This avoids the need to adjust nominal financial information to remove the effects of inflation.
[676] The capital structure affects how earnings before interest and tax is divided between the various providers of capital.

Network by providing appropriate notice to Motorola. [✂] there remains the likelihood of a further extension in case ESN is not ready in time and/or where not all users have been able to transition to the new solution ahead of 31 December 2026. [✂][677]

19 In this context, we have considered three different perspectives in terms of the cost of capital for the business. First, we have considered the expected cost of capital for the 2001 to 2019 period, as assessed at the start of 2001. Second, we have considered the cost of capital the Airwave Network may reasonably expect to apply over the post-PFI period, ie the period from 1 January 2020 onwards. Third, we have considered the allowance for a return on capital for the business under a charge control period, ie from mid-2023 to the end of 2029.

20 We have considered the issue of whether or not a hurdle rate is appropriate below.

Parties' submissions

Airwave Solutions and Motorola

21 Motorola told us that, well-advised parties had agreed contractual terms with reference to an agreed fair internal rate of return (IRR) for the life of the Airwave Network, whatever that would be. The hurdle rate for the Airwave project was negotiated, set between the parties at the outset, and is well documented and understood by the parties. There were no provisions that would protect Airwave Solutions from actual returns turning out to be lower than the hurdle rate agreed *ex ante,* nor any claw-back provisions that would require Airwave Solutions to reduce prices if actual returns turned out to be higher. Motorola submitted that all that could be established through an *ex-post* assessment of profitability was whether matters had turned out better or worse for a party than expected. Moreover, for this, profitability would have to be assessed over the entire life of the project, ie 2001 to 2026.[678]

22 Motorola submitted that it makes no sense to use a WACC derived from a standard application of the CAPM to Airwave or Motorola, highlighting the following from the Oxera paper[679]:

> [i]n profitability assessments of realised rates of return, the relevant cost of capital is the ex ante cost of capital — i.e. the cost of capital that was used in assessing the project at inception. This is particularly important for risky projects that carried a high

[677] Home Office Hearing with the CMA on 2 March 2022. [✂].
[678] Motorola's response to the CMA's working paper on Profitability, 10 January 2022, paragraph 3.
[679] Motorola's response to the CMA's working paper on Profitability, 10 January 2022, paragraphs 36–39.

likelihood of failure. The ex ante cost of capital has to be adjusted upwards to capture the inherent risk (the result is commonly known as a hurdle rate). When a competition authority is assessing returns that have been realised, a comparison of the realised rate of return with an ex post cost of capital that does not reflect the risk of failure of the project could lead to an overstatement of profitability [680] (Emphasis added by Motorola)

it is common to see companies marking up the cost of capital when setting 'hurdle rates' (i.e. required returns) to appraise individual projects or investment plans … This premium accounts for project-specific risks, which are not reflected in the company's cost of capital generated by the CAPM approach or other asset pricing models. One clear example where a mark-up is applied is for large investment projects with a high degree of asymmetric risk, i.e. when there is a relatively large downside risk of failure compared with the likelihood of success. The CAPM and other models do not capture such asymmetric risk. (Emphasis added by Motorola).[681]

23 Motorola submitted that, in this case, there should be no dispute about the appropriate benchmark as the parties discussed and agreed on a target IRR at the outset, and one which compares very favourably to other government projects for which data is available. The IRR agreed between the parties is set out in a financial model[682] put into escrow that would be used to assess the reasonableness or otherwise of potential future variations of charges. This model specified a real, post-tax target IRR of [✂] (nominal pre-tax: [✂]).[683]

24 In response to our Cost of Capital Working Paper, Motorola submitted[684] that we should have placed weight on the WACC analysis set out in the Deloitte report which we had relied on in relation to the valuation of the Airwave Network's assets. Motorola highlighted that Deloitte i) relied more on technology companies and less on regulated utilities as peers and ii) explicitly takes account of the revenue risk to which investors in Airwave Solutions was exposed at the time, including a company-specific risk premium of 8 percentage points.

25 Motorola submitted that while the impact of the difference in estimated beta was limited (from the Deloitte approach), the acknowledgment of the substantial

[680] Oxera (July 2003), Assessing profitability in competition policy analysis, paragraph 7.9.
[681] Oxera (July 2003), Assessing profitability in competition policy analysis, paragraph 7.28.
[682] Motorola's response to the CMA's working paper on Profitability, 10 January 2022, paragraph 3.
[683] Motorola's response to the CMA's working paper on Profitability, 10 January 2022, paragraph 38.
[684] Motorola's response to the CMA's working papers on Profitability and the Cost of Capital, 20 May 2022, paragraph 50.

revenue risk results in a much higher WACC estimate of 17% overall, which is not dissimilar to the target IRR agreed at the outset when the original Airwave contract was signed. [685]

26 Motorola highlighted the risks arising from the Home Office's decision not to commit to an extension period but 'rather to require Airwave to provide mission critical services for an undefined period until ESN eventually became available'. Motorola submitted that this uncertainty and the associated risk cannot simply be dismissed with reference to the notion that the technological challenges that would initially have justified a substantially higher hurdle rate had by then been resolved. To the contrary, Motorola observed that Airwave has recently experienced, and will continue to experience, some of the most significant technological challenges experienced over its entire contract. Therefore, Motorola submits that while the specific risks to which Airwave was exposed have changed, they have not disappeared, even before one considers the significant technological challenges associated with keeping an ageing network operational to the required standard in an environment where spares are increasingly unavailable and third-party inputs on which the network relies are reaching their end of life and are being withdrawn and replaced at a quickening pace due to shorter lifecycles, resulting in hardware and software obsolescence and needing support.[686]

27 In response to our provisional decision, Motorola submitted that:

(a) The use of WACC rather than a hurdle rate is entirely inappropriate for assessing returns on a specific project such as Airwave, noting that it is not uncommon for returns promised by the public sector for large infrastructure projects to lie in the range of 10 to 20%, ie far in excess of the WACC that prospective bidders for such projects might face[687];

(b) The CMA's provisional assessment that, regardless of whether a hurdle rate was required during the PFI period, no such uplift should be applied to the post-PFI period since all the initial uncertainties and risks associated with the Airwave project, which might have merited such an uplift, had long been resolved, ignored the revenue uncertainty in combination with significant investments required post 2019. Motorola further explained that:

(I) Under the terms agreed for the continued provision, Airwave would not have been able to recover its investments by asking for compensation

[685] Motorola's response to the CMA's working papers on Profitability and the Cost of Capital, 20 May 2022, paragraphs 49–51.
[686] Motorola's response to the CMA's working papers on Profitability and the Cost of Capital 20 May 2022, paragraphs 52–53.
[687] Motorola's response to the CMA's Provisional Decision Report – annex – supplementary comments on the CMA's profitability and remedies assessment, 21 November 2022, page 25.

for unrecovered capex at the point at which the network would be switched off (unlike the CMA envisages under its charge control) and there was less certainty over the required period than there is now, after the National Shutdown Notice has been served.

(II) There is also uncertainty over what specific investments are needed to keep the network operational in the face of technological obsolescence and the withdrawal of third-party products. Airwave cannot be treated like a utility with a guaranteed revenue stream over the lifetime of the assets in a known technological environment.[688]

(c) The CMA's provisional assessment that most weight should be placed on UK utilities as comparators was flawed. Motorola put forward the views that i) Airwave was not a natural monopoly as there has been and can be competition for the market, unlike in the case of the typical utility, ii) utilities do not have a finite life of uncertain duration and do not make investments they may not be able to earn back because the service terminates (which the CMA implicitly acknowledges when it sets up the price control remedy), iii) utilities also do not face revenue uncertainty in terms of the duration of the period over which revenues can be earned, and iv) the CMA underestimates the risks associated with having to maintain an ageing network without being able to gradually go through a complete refresh owing to the finite life of the contract. In this context, Motorola noted that the UK Government itself considers the risk of public contract/concession contracts for service such as PPP social infrastructure projects to be above the risk associated with electricity, gas and water transmission and distribution networks, even ignoring the specific technology risks surrounding the maintenance of an ageing but mission-critical network.[689]

(d) With respect to the group of comparator companies included in the Deloitte report, Motorola highlighted that the first thirteen companies are filed as MSI comparator group companies, while the last three – BT, Airbus and Vodafone were included to provide a more direct, regional comparator for Airwave.[690]

(e) The CMA should have conducted a probability-weighted NPV calculation to reflect the uncertainty over the time period for which Airwave would be required, rather than proceeding on the basis that the continued operation of

[688] Motorola's response to the CMA's Provisional Decision Report – annex – supplementary comments on the CMA's profitability and remedies assessment,,21 November 2022, page 25.
[689] Motorola's response to the CMA's Provisional Decision Report – annex – supplementary comments on the CMA's profitability and remedies assessment,, 21 November 2022, pages 26–27.
[690] Motorola's response to the CMA's Provisional Decision Report – annex – supplementary comments on the CMA's profitability and remedies assessment, 21 November 2022, pages 27–28.

Airwave to 2026 and beyond was a certainty in 2016 when the terms of the service provision were agreed.[691]

Evidence gathered from Airwave Solutions and Motorola Inc.

28 In addition to considering Motorola's submissions, we also reviewed a range of internal documents collected from Motorola / Airwave Solutions which set out views on the relevant cost of capital for the Airwave Network.

29 Goldman Sachs prepared a valuation report for Motorola in February 2015 in advance of the acquisition of Airwave Solutions.[692] This report estimated a WACC for the Airwave business of 5.1% and used a range of between 4% and 6% in the valuation work that it carried out. We understand that these figures are post-tax, nominal WACC estimates.[693] See Figure J-1 for details of each element of the WACC calculation.

30 We note that this is equivalent to a pre-tax nominal WACC of 6.4% (using the 20% tax rate assumed by Goldman Sachs).

Figure J-1: Goldman Sachs WACC estimates for Airwave

WACC Calculation

1	Risk Free Rate	2.0%
2	Historical Beta	0.80
3	ERP	6.8%
	Ke	**7.5%**
4	Kd[1]	3.5%
5	t	20.0%
	Kd x (1-t)	**2.8%**
6	E/L	50.0%
	D/L	50.0%
	WACC	**5.1%**

Assumptions

1. Risk free rate based on the UK 2025 government bond per Bank of England
2. Historical beta based on selected comparable peers[2]
3. ERP based on Duff & Phelps 2015 Report (IMF U.K. Long Term Government Income Return – 20 years)
4. Cost of debt based on equity and debt capital markets teams perspective
5. Tax rate as per UK government corporate tax regulation
6. Target capital structure based on GS IBD estimates and client's guidance

Source: Goldman Sachs Opinion Letter, prepared for Motorola Inc, December 2015

691 Motorola's response to the CMA's Provisional Decision Report – annex – supplementary comments on the CMA's profitability and remedies assessment, 21 November 2022, page 28.
692 Discussion materials, report provided by Goldman Sachs for Motorola, 17 November 2015, provided to the CMA as part of the merger inquiry.
693 We note that the 3.5% cost of debt and the 8.8% TMR implied by Goldman Sachs' estimates suggests that these figures are nominal rather than real given actual costs of debt and the usual level of TMR estimates. For example, Dimson, Marsh and Staunton estimate that total returns on UK equity markets over the last 120 years has been approximately 5-7% in real terms. Therefore, a TMR of just under 9% suggests that this is a nominal estimate. See Credit Suisse, Global Investment Sourcebook, 2021.

31 Deloitte prepared a report for Motorola on the 'Fair Value of Certain Intangible Assets and Liability Acquired From Airwave Solutions Ltd'. The report was dated 3 August 2016.[694] This report included an estimate of the WACC of approximately 17%[695] based on the following parameter estimates:

(a) Risk-free rate of 2.17%;

(b) Equity Risk Premium of 6.5%;

(c) An unlevered beta of 1.00, and a levered beta of 1.20;

(d) A small company premium of 1.8%;

(e) A country-specific risk premium of 0.60%;

(f) A company-specific premium of 8.0%;

(g) A gearing ratio of 20%; and

(h) A post-tax cost of debt of 4.20%.[696]

32 Motorola carries out an impairment review each year, including with respect to the Airwave business. In the review dated 31 December 2020,[697] a discount rate of [✂]% was used in order to value the Airwave business, with sensitivity analysis applying a range of [✂] ie 1% higher or lower than this point estimate. We understand that these figures are nominal, post-tax estimates. In its 2018 Impairment Review, Motorola stated that:

> These cashflows have been discounted using a discount rate of [✂]% which is consistent with prior year in the absence of any market economic factors or company specific factors that are deemed to be impacting to the Airwave discount rate over the last 12 months. We believe this to be a prudent discount rate for Airwave cashflows which are contracted and therefore very low risk and would therefore be attractive to investors who are seeking low risk low return investments. [698]

33 Finally, the PFI model[699], prepared around 2000 when negotiating the original PFI Agreement for the development of the Airwave Network, contained a real, post-tax

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694 Deloitte report for Motorola, 3 August 2016. [✂]
695 We understand that this figure is a post-tax nominal estimate, which approximates to a pre-tax nominal WACC of 21.4%.
696 Deloitte report for Motorola, 3 August 2016, Exhibit 6. [✂],
697 Motorola impairment review, 31 December 2020. [✂]
698 Motorola impairment review, 31 December 2018, section 8. [✂]
699 PFI model, 2000. [✂]

discount rate of [✂]%. This is approximately equivalent to a nominal, pre-tax WACC of just over [✂]% (using the 30% tax rate in effect at the time and an inflation assumption of 2.0%).

Home Office

34 In response to our Cost of Capital Working Paper,[700] the Home Office told us that it agreed with the CMA's approach to estimating the cost of capital at two moments in time—at the start of the original PFI period (around April 2001) and at the start of the post-PFI period (end of 2019). It also agreed in principle with the CMA using the capital asset pricing model (CAPM) to estimate the cost of capital.

35 The Home Office made a number of further detailed submissions on the risk-free rate, set of comparator companies and gearing levels. These are summarised and assessed in the relevant sections below.

36 Overall, the Home Office proposed a revised analysis that reduced the estimated cost of capital in the PFI period from a range of 7.9% to 9.6% to 7.4% to 8.5% and the estimate for the post-PFI period from a range of 4.9% to 6.8% to 2.0% to 4.2%.[701]

CMA estimation of WACC

37 This section sets out the analysis that we have undertaken to estimate the components of the WACC calculation, which includes both generic and industry-specific components. The former comprise the risk-free rate (RFR), the total market return (TMR) and the tax rate; the latter comprise beta, gearing and the cost of debt.

Risk-free rate

38 In order to estimate the risk-free rate applicable over the period of our investigation, we have focused on UK index-linked gilt yields, which have negligible default and inflation risk.

39 We usually consider long-maturity gilts to be most relevant to the RFR in the cost of equity since equities also have long (indefinite) maturity.

40 The Home Office submitted that the maturity of the gilts should match the expected duration of the Airwave contract, noting that in estimating the RFR as of 2001, it would be consistent to use gilts with a maturity of between 10 and 25

[700] Home Office submission and response to working papers, 24 May 2022, paragraphs 46–47.
[701] Home Office submission and response to working papers, 24 May 2022, paragraph 77.

years, as that broadly matches the expected duration of the contract, while as of the end of 2019, it was expected that the network would be shut down after three years (as at the time the contract was extended only until December 2022). As a result, the Home Office submitted that the CMA should consider index-linked gilts of a shorter-term maturity than 10 to 25 years. The Home Office highlighted that as of 2019, shorter maturities had significantly lower yields, with the average spot yield on index-linked gilts with maturities between three and seven years being -2.5% on 31 December 2019, while the average spot yield on index-linked gilts with maturities between 10 and 25 years was -2.1% on that date.[702]

41 Further, the Home Office submitted that the CMA could also avoid the risk-free rate being affected by the volatility of the spot yields on a specific date by using a 6-month average instead. The Home Office observed that the 6-month average of spot yields on gilts of 3 to 7 years maturity was 0.3 percentage points lower than the 31 December 2019 spot yield.[703]

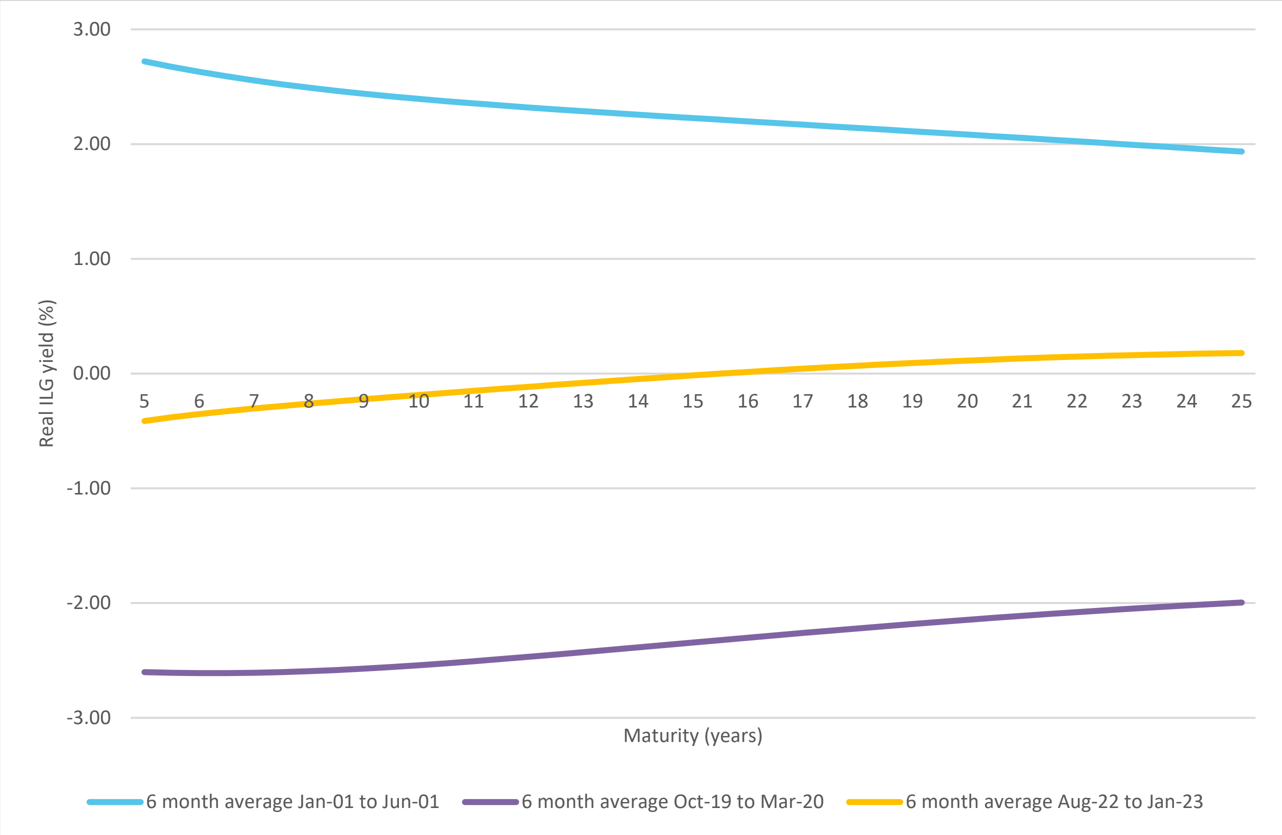
42 In coming to a conclusion on the appropriate RFR for the period starting in 2001, we considered yields on gilts with a maturity of between 10 and 25 years. We note this is consistent with both the long life-span of equities and the 15 to 20 year expected life of the Airwave contract at its start. Figure J-2 shows real gilt yields as of the start of 2001, as of late 2019/early 2020, and as of the end of 2022/early 2023.[704]

43 This evidence demonstrates that ILG yields declined by around four to five percentage points between 2001 and 2019. As of January 2001, gilt yields on longer-dated maturities were approximately 2% to 2.5%, while by the end of 2019, they had declined to around -2.5%--2.0%. ILG yields subsequently increased to around 0% as of Q42022/Q32023.

44 We agreed with the Home Office that considering a six-month average rather than a single-date spot yield would reduce volatility in the estimates, and have adopted this approach for each of the yield curves set out below.

[702] Home Office submission and response to working papers, 24 May 2022, paragraphs 61–63.
[703] Home Office submission and response to working papers, 24 May 2022, paragraphs 64–65.
[704] We have calculated ILG yields for the period from August 2022 to the end of January 2023 as an indication of the level to be used in the charge control. We propose to update this to reflect the latest market position during the remedy implementation stage.

Figure J-2: Yield curves on UK index-linked gilts, 2001 to 2022



Source: Bank of England, real spot yield curve data.

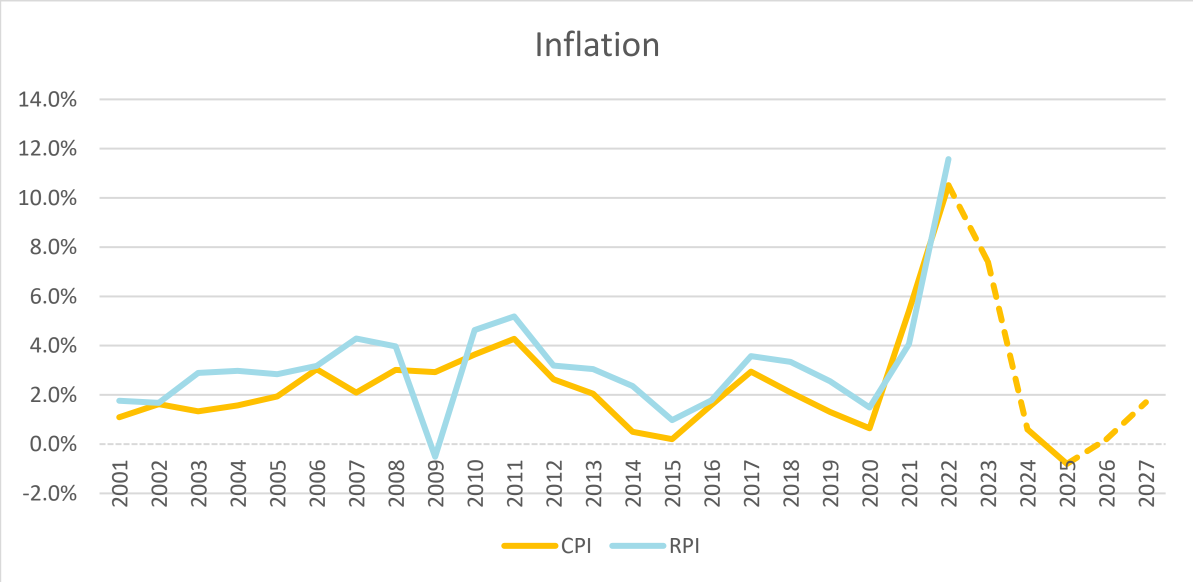
45 We considered the Home Office's suggestion that shorter maturity yields were more relevant when considering the cost of capital for the Airwave Network as of the end of 2019 given its more limited expected lifespan as of that date. While we agreed with elements of the Home Office's reasoning in this respect – notably that the maturity should approximately match the expected life of the assets – we noted that the network's life has been extended to 2026 at this time and that it is likely that the network will be needed until 2029, and even possibly beyond that date. We consider, therefore, that it is reasonable to have reference to gilts with maturities of at least 7 years – since the network will not be shut down before the end of 2026. While we do not seek to make predictions regarding the actual useful life of the network, we have considered gilts with maturities of between 7 and 15 years. As of late 2019/early 2020, such gilts had yields of between -2.3% and -2.6%.

46 ILGs are indexed to RPI inflation rather than CPI inflation, with the latter widely considered to be a better measure of price changes in the economy.[705] Figure J-3 shows these two inflation measures from 2001 to 2022, together with OBR

[705] See UK Consumer Price Statistics: A Review – UK Statistics Authority for a full discussion of the relative merits of RPI and CPI inflation.

projections for 2023 to 2027 inclusive. For the period from 2001 to 2019, CPI has averaged 2.1%, while RPI has average 2.8%, ie the 'wedge' between the two measures has been approximately 0.7 percentage points. However, this differential is expected to increase slightly in the future, with the Office for Budget Responsibility (OBR) forecasting a difference of 0.9 percentage points in the next few years. [706]

Figure J-3: RPI and CPI inflation, 2001 to 2027



Source: CMA analysis of ONS data and OBR forecast data[707]

47 On this basis, we consider that an investor at the start of the period, ie around 2001, would have expected a CPI-real RFR of between 2.5% and 3.0%[708] for the expected life of the Airwave Network. Similarly, while we note that future changes in yields curves are uncertain, for the period from 2020 onwards, we consider a CPI-real RFR of approximately -2.0% to -1.0% is reasonable.[709] We note that this range is somewhat broader than that given by adjusted gilt yields around late 2019/2020 but we consider that such an approach is appropriate given uncertainty over potential future movements in gilt yields.

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[706] Office for Budget Responsibility (December 2019), Forecast evaluation report, pages 20–21, Box 2.3. We note that in the latest Economic and Fiscal outlook, the actual wedge was observed to have increased further due to increases in interest rates, see Economic and Fiscal Outlook - November 2022 (obr.uk), paragraph 15.
[707] Economic and Fiscal Outlook - November 2022 (obr.uk)
[708] These figures are equal to the 1.7% to 2.2% range of yields shown as of January 2001 uplifted by 0.8% to allow for the difference between CPI and RPI inflation.
[709] A range of -1.4% to -1.7% is given if one uplifts the -2.6% to -2.3% range of gilt yields by the 0.9 percentage points of the RPI-CPI wedge.

48 As of late 2022/early 2023, we consider that a CPI-real RFR of approximately 0% to 1% is reasonable.

Total market return and equity risk premium

49 The ERP is the additional return that investors require to compensate them for assuming the risk associated with investing in equities rather than in risk-free assets. When seeking to understand what the ERP was over a historical period of time, it is necessary to identify the returns which investors expected to make on the market (the 'Total Market Return' or 'TMR') and deduct the relevant RFR (as estimated above).

50 There are two types of approach that can be used to estimate the TMR. Historical methods seek to derive the TMR from a long run of data on realised returns on equities. Forward-looking approaches seek to estimate the expected TMR based on either the reported expectations of market participants or the TMR implied in asset prices at the start of the period.

51 There is no universally accepted method for deriving the TMR or the ERP. Both concepts are concerned with investors' ex-ante expectations of returns, which are largely unobservable. The academic literature on the subject is large and can be categorised into three types:

(a) Studies that assume that historical realised returns are equal to investors' expectations ('historical ex-post approaches').

(b) Studies that fit models of stock returns to historical data to separate out ex-ante expectations from ex-post good or bad fortune ('historical ex-ante approaches').

(c) Studies that use current market prices and surveys of market participants to derive current forward-looking expectations ('forward-looking approaches').

52 All of the above methods have a degree of uncertainty associated with them, and any answers from these analyses require a large number of assumptions and significant amounts of judgement.

53 The CMA recently assessed the evidence on TMR in detail in its Ofwat PR19 price redeterminations.[710] It concluded that a (CPI-)real TMR range of 6.15% to 7.46% was appropriate, with a mid-point of 6.8%. A summary of its analysis is set out in Figure J-4 below.

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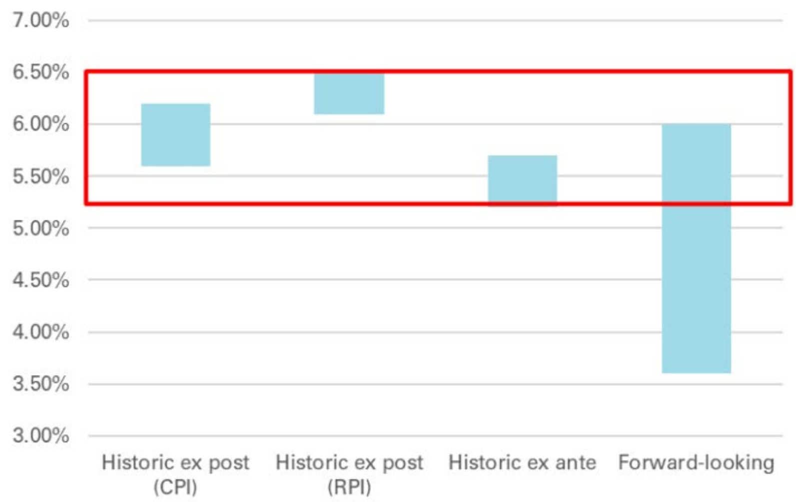
[710] CMA (2021), Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations final report

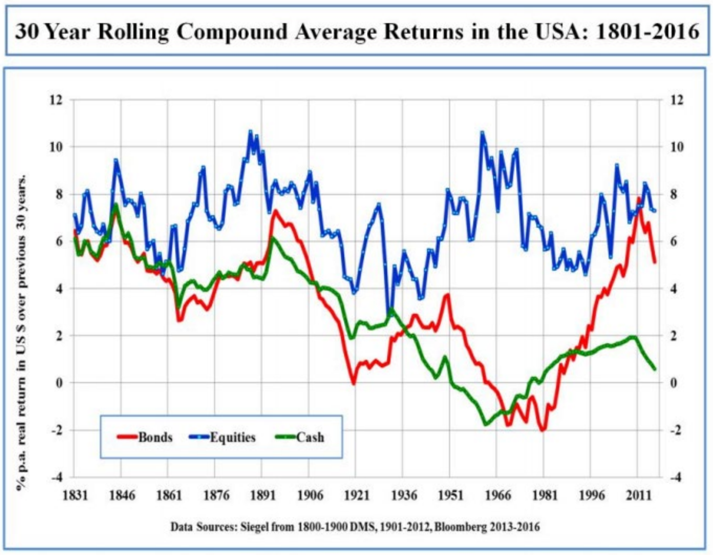
Figure J-4: CMA analysis of evidence on TMR (RPI-real), PR19



Note: All figures in this chart are 'RPI-real'. To achieve an equivalent "CPI-real" estimate, these figures should be increased by approximately 1 percentage point.

54 We note that the market evidence provides some support for the view that the TMR is more stable over time than the ERP (see Figure J-5 below). As a result, we do not believe that a different TMR should be applied at different points over the lifetime of the Airwave Network and provisionally consider that the CMA's assessment for the PR19 redetermination remains appropriate for this market-wide element of the cost of capital. We have included this range in our provisional WACC estimates.

Figure J-5: Compound average real returns on bonds, equities and cash in the USA between 1801 and 2016



Source: UKRN Report 2019, Figure 4.4

Tax Rate

55 The corporation tax rates applicable over the period are set out in Table J-2. The average tax rate for the period as a whole is 25%, with rates at 30% around 2001, and expected to be 23% (on average) from 2020 to 2029, and 25% on average between 2023 and 2029. We have used these figures in our WACC estimates.

Table J-2: UK corporation tax rates (historic & forecast)

	2001	2002	2003	2004	2005	2006	2007	2008	2009
%	30	30	30	30	30	30	30	30	28

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
%	28	26	24	23	21	20	19	19	19	19

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
%	19	19	19	25	25	25	25	25	25	25

Source: Main rates for all profits except ring fence profits from HMRC.

Equity betas

56 The beta of an asset measures the correlation between the volatility of the returns on the asset and the returns on the market as a whole, or the exposure of the firm to systematic or 'non-diversifiable' risk. It is in return for assuming this (market) risk that investors require an (equity risk) premium over the risk-free return.

57 The beta value of a listed firm can be directly estimated as the covariance between the stock's returns and the market's returns, divided by the variance of market returns. However, when estimated in this way, the beta value reflects the full range of activities undertaken by a listed business and, as a result, may differ from the beta of the relevant activities for the purposes of our investigation.

58 Within a CAPM framework, changes in gearing affect equity betas. Hence, it is necessary to adjust for gearing differences in order to make comparisons between equity betas. We do this by calculating the asset beta, ie the beta at zero gearing. In this section, we first set out the range of beta estimates that we have collected on our sample of comparator firms.

Identification of relevant comparator firms

59 In order to estimate an appropriate beta for the Airwave Network, it is first necessary to identify a set of relevant comparator firms.

60 In our Cost of Capital Working Paper, we drew on the analysis undertaken by Goldman Sachs for Motorola. This identified 15 potential comparator firms, 10 of which it considered to be 'key peers' (see Figure J-6 below). We reviewed this list of firms and found many of the 'key peers' to be relevant comparators. However, we reasoned that Centrica was a less relevant comparator than some of the other firms listed, given that its portfolio of activities includes upstream oil and gas exploration and energy market trading.

61 We set out our preliminary view that most weight should be placed on the UK utilities as comparators due to the following similarities with the Airwave Network:

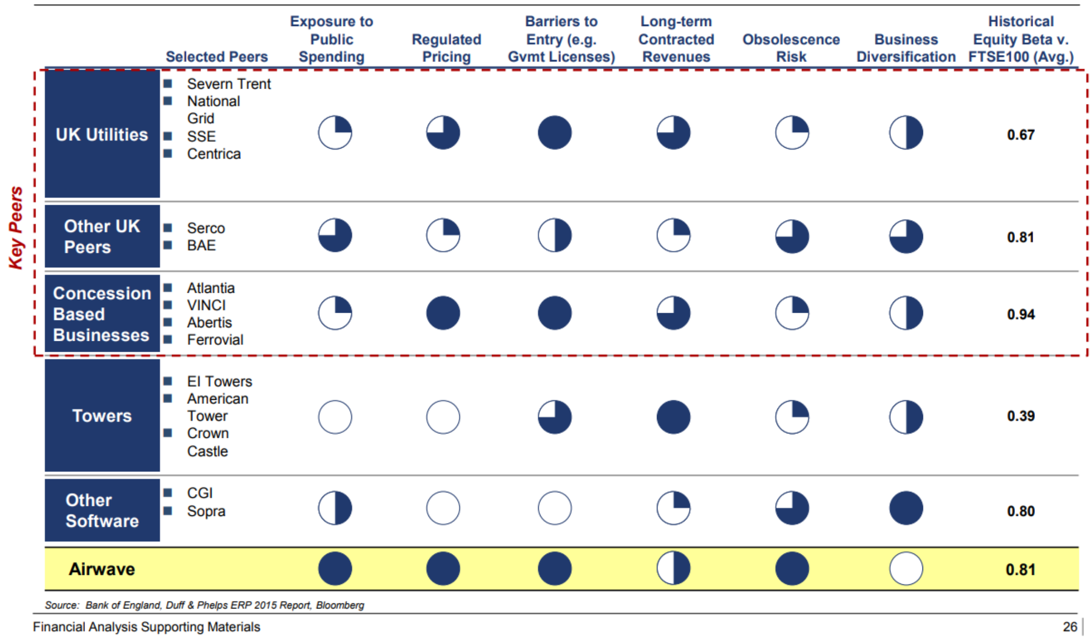
(a) First, they are largely natural monopoly/network businesses with the accompanying barriers to entry and therefore faced limited or no competition;

(b) Second, they benefit from revenues which are inflation-indexed, with limited exposure to changes in customer demand across the economic cycle due to the essential nature of the products/services they provide; and

(c) Third, the main risk faced by these businesses is managing costs in developing and operating their networks over time and ensuring that certain levels of service are maintained (in order to avoid penalties).

62 In addition to these factors, we noted that Airwave Solutions also has the benefit of very limited risk of bad debts due to the nature of its customer base. In this context, we considered that United Utilities should also be included as a relevant UK utility comparator.

Figure J-6: Goldman Sachs analysis of comparator firms to the Airwave Network



Source: Goldman Sachs Opinion Letter, prepared for Motorola Inc, December 2015

63 In response to our Working Paper, the Home Office submitted that only utility companies should be included in the comparator set for the Airwave Network, agreeing with the CMA's reasoning, as set out above, and noting the following points:

(a) Similar to the Airwave Network, utilities generally have high asset intensity. Furthermore, while the length of the initial PFI agreement of nearly 20 years is longer than typical utilities' regulatory periods, which could be argued to introduce greater potential for cost fluctuations, a longer contract implies no regulatory resets and no regulatory risk. Therefore, on balance, the Home Office considers that the risks of the Airwave Network and regulated utilities are similar.

(b) The Home Office agrees with the CMA's exclusion of Centrica due to its activity in upstream oil and gas exploration and energy market trading, however it considers that less weight should be placed on SSE as a comparator, given the different risks it faces from pure-play regulated utilities;

(c) The CMA has not provided equivalent justification for the inclusion of other UK contractors (Serco and BAE) and other concession-based businesses outside of the UK (Atlantia, Ferrovial, and VINCI) in the comparator set. The Home Office does not consider the five additional comparators selected by the CMA which operate outside the utility sector, to be suitable comparators to the Airwave Network, for the following reasons:

(I) In terms of the selected UK contractors (Serco and BAE), while it is understood that the risk of individual contracts held by Serco and BAE may happen to be similar to the risk of the Airwave contract, the Home Office told us that it fails to see why the risk of a business based on bidding and winning multiple contracts would be comparable to the risk of a single project. In other words, one of the largest factors driving revenue of these contractors would be their ability to win new contracts or renew the existing ones – this is distinct from the revenue risk of a single contract such as for the Airwave Network, which has inflation-indexed revenue and limited exposure to changes in demand.

(II) The concession-based comparators selected by the CMA—VINCI, Ferrovial and Atlantia—are mainly focused on concessions related to highways and airports. The Home Office submitted that the transport sector faces different risks to those of the Airwave Network, namely due to more significant volume risks, at least some of which are correlated with economic activity – also making them unsuitable comparators. In addition to transport, VINCI and Ferrovial are also involved in the construction industry which has risks different from those of the Airwave Network. Importantly, similar to the revenue risks faced by BAE and Serco, VINCI and Ferrovial would need to bid for and win new construction contracts, which is substantially different to the revenue risk faced by Airwave Solutions.

(d) Finally, the Home Office highlighted that, in a study undertaken for HM Treasury in 2002, a comparator set consisting solely of UK utilities was used to assess the value for money of PFI projects.[711] [712]

64 In response to our PDR, the Home Office further submitted that it (still) disagrees with the inclusion of non-utilities comparators, and notes that the current approach applied by the CMA gives a disproportionate weight to non-utilities companies in its upper bound estimate solely due to the number of comparators in the sample. An alternative approach, using the mid-point between the utilities and non-utilities groups would result in an asset beta of 0.49 on average.[713]

65 The Deloitte Report,[714] which Motorola submitted[715] we should place weight on, included a large number of additional companies with a greater focus on technology firms.

[711] PwC in association with Professor Julian Franks (2002), 'Study into the rates of return on PFI projects'
[712] Home Office submission and response to working papers, 24 May 2022, paragraphs 49–57.
[713] [✂]
[714] Deloitte report for Motorola, 3 August 2016. [✂]
[715] Motorola's response to the CMA's working papers on Profitability and the Cost of Capital, paragraph 50.

Figure J-7: Deloitte analysis of Airwave's beta

Ticker	Guideline Companies	(1) Total Book Value of Debt (1)	(1) Total Book Value of Preferred	(2) Total Market Value of Equity	Total Market Value of Capital	Debt to Capital	Equity to Capital	Marginal Tax Rate	(3) Levered Equity Beta	(4) Unlevered Equity Beta
MSI	Motorola Solutions, Inc.	4,390	-	11,715	16,105	27.3%	72.7%	40.0%	0.69	0.56
A	Agilent Technologies, Inc.	1,655	-	12,430	14,085	11.8%	88.2%	40.0%	1.27	1.17
DHR	Danaher Corp.	15,012	-	60,404	75,416	19.9%	80.1%	40.0%	1.10	0.96
DOV	Dover Corporation	2,768	-	9,472	12,241	22.6%	77.4%	40.0%	1.25	1.06
ETN	Eaton Corporation plc	8,672	-	25,916	34,588	25.1%	74.9%	40.0%	1.40	1.16
HRS	Harris Corporation	5,026	-	9,307	14,333	35.1%	64.9%	40.0%	1.25	0.94
IR	Ingersoll-Rand Plc	4,239	-	13,796	18,035	23.5%	76.5%	40.0%	1.25	1.06
NCR	NCR Corporation	3,252	-	3,674	6,926	47.0%	53.0%	40.0%	1.32	0.86
PH	Parker-Hannifin Corporation	3,299	-	13,691	16,991	19.4%	80.6%	40.0%	1.34	1.17
RTN	Raytheon Company	5,330	-	37,330	42,660	12.5%	87.5%	40.0%	0.84	0.77
ROK	Rockwell Automation Inc.	1,654	-	13,472	15,126	10.9%	89.1%	40.0%	1.19	1.11
COL	Rockwell Collins Inc.	2,475	-	11,430	13,905	17.8%	82.2%	40.0%	0.81	0.72
TEL	TE Connectivity Ltd.	3,870	-	22,468	26,338	14.7%	85.3%	40.0%	1.03	0.94
TYC	Tyco International plc	2,298	-	14,368	16,666	13.8%	86.2%	40.0%	1.08	0.98
BT.A	BT Group plc	12,432	-	55,570	68,002	18.3%	81.7%	20.0%	1.04	0.88
AIR	Airbus Group SE	10,534	-	48,762	59,296	17.8%	82.2%	25.0%	1.12	0.97
VOD	Vodafone Group Plc	55,801	-	80,971	136,772	40.8%	59.2%	20.0%	0.74	0.48
					Average	22.2%	77.8%			0.93
					Zoom	19.4%	80.6%			0.96
					[illegible]d	**20.0%**	**80.0%**			**1.00**

Source: Deloitte, 2016, Exhibit 6.

Our assessment

66 We considered both the Home Office's and Motorola's submissions on the appropriate comparator set carefully, including the points made by Motorola.

67 First, we noted that comparator list used by Deloitte contained a range of firms with materially different characteristics from Airwave. In particular, several of the firms appear to focus on industrial manufacturing (eg Parker Hannafin, Dover Corp, Agilent and Ingersoll-Rand), while others have a technology focus (eg Rockwell Automation and NCR Corporation). These firms do not exhibit the critical infrastructure (and associated investment) characteristics of the Airwave Network, or its relatively long-term contracted and guaranteed revenues. We did not, therefore, consider these firms to be good comparators in general.

68 With respect to the Home Office's submissions regarding Serco and BAE, we recognise that the risks associated with a single, existing contract may be lower than those associated with businesses which seek to win new long-term contracts on an on-going basis, due to the latter's greater exposure to volume risks with potential for the economic cycle to influence overall volumes. Similarly, we agree that the risks associated with concession businesses active in the highways, airports and construction sector were likely to be greater than the risks faced by the Airwave Network, with more significant exposure to the economic cycle. We noted, however, that we have already placed more weight on UK utilities when assessing the overall level of beta and did not consider that further adjustment was required in this respect.

69 We did not agree with the Home Office that our approach to averaging placed disproportionate weight on the non-utility comparators as the lower end of our

range is set with reference to (only) those utility comparators and the upper end of the range is given by the whole-sample average.[716]

70 We noted Motorola's submissions on the need for a hurdle rate, both during the PFI period and thereafter, and have considered them below. We do not consider that a beta adjustment is the most appropriate way of dealing with these points.

71 The full list of comparators we have considered is set out in Table J-3 below.

Beta estimates

72 The betas of the listed comparator companies are shown in Table J-3 and have been calculated on a daily, weekly and monthly basis over the last 10 years.[717] For UK-listed firms, we have estimated their betas against the FTSE All-Share index, while for overseas-listed businesses, we have estimated their betas against the broadest home-country index available.

73 Our sample of firms as a whole has an average asset (or unlevered) beta of between 0.52 to 0.57. The UK utility comparators as a group have significantly lower average betas than the other firms. Within this Group, SSE, which had material unregulated revenues over the last 10 years, has a materially higher beta than the other UK utilities. The pure-play regulated firms had asset betas of between 0.25 and 0.35, while SSE's beta was around 0.4 to 0.6.

Table J-3: Levered and unlevered betas of comparator firms (last 5 years)

	Levered beta			**Unlevered beta**		
Company	*Daily*	*Weekly*	*Monthly*	*Daily*	*Weekly*	*Monthly*
Severn Trent	0.59	0.62	0.56	0.32	0.34	0.31
National Grid	0.61	0.60	0.39	0.37	0.36	0.24
United Utilities	0.60	0.63	0.50	0.30	0.32	0.25
SSE	0.86	0.83	0.58	0.61	0.59	0.41
Average UK Utilities	*0.67*	*0.67*	*0.51*	*0.40*	*0.40*	*0.30*
Serco	0.86	0.89	0.81	0.71	0.73	0.67
BAE	0.89	0.91	1.01	0.80	0.82	0.92
Atlantia	0.84	0.83	0.91	0.51	0.50	0.55
VINCI	1.17	1.09	1.01	0.90	0.83	0.77
Ferrovial	0.80	0.82	0.77	0.62	0.64	0.60
Average others	*0.91*	*0.91*	*0.90*	*0.71*	*0.71*	*0.70*
Average all	***0.80***	***0.80***	***0.73***	***0.57***	***0.57***	***0.52***

[716] Furthermore, the number of utility and non-utility firms in the sample, 4 of the former and 5 of the latter, is reasonably even such that we consider our approach to be reasonable.
[717] We have focused on longer-term beta estimates given the extended time period of our analysis. We also estimated betas over the last 2 and 5 years as a cross-check and noted that there was significant consistency between these estimates and those calculated over the last 10 years.

Sources: Refinitiv
**Betas have been unlevered using the following formula: Unlevered Beta = Levered Beta / (1 + ((1 – Tax Rate) x (Debt/Equity))), where the tax rate used is the average statutory corporate tax rate in UK. The tax rates used are set out in Table J-2. The levered beta is also called the equity beta; the unlevered beta is also called the asset beta.*

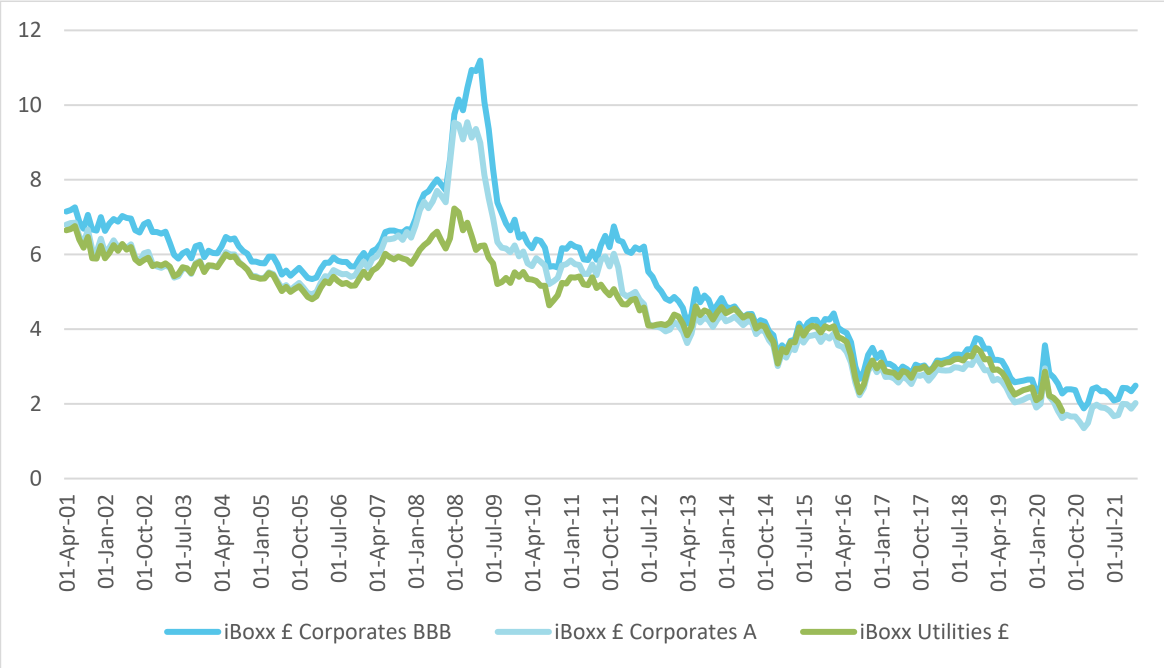
74 We consider that it is appropriate to place more weight on the UK utility comparators given their numerous similarities to the Airwave business. Therefore, our conclusion is that an asset beta of between 0.35 and 0.55 is appropriate for the Airwave business. The lower end of this range, which is slightly lower than that used in our WACC Working Paper, reflects the average asset beta of UK utility comparators (when measured on a daily and weekly basis)[718] once a reduced weight is placed on SSE due to its material unregulated revenues, while the upper end of this range reflects the average of all the comparators as a whole. When combined with gearing of between 35% and 50% (see paragraph 55 onwards), this gives an equity beta of around 0.60 to 0.76 for the PFI period. From 2020 onwards, we have used a zero gearing assumption, so the asset betas are the same as the equity betas.

Cost of debt

75 In order to come to a view on an appropriate cost of debt for the Airwave Network, we have collected data on yields on UK corporate bonds with investment-grade credit ratings over the relevant period as shown in Figure J-8.[719] We consider that this credit rating is consistent with both the ratings of the comparator companies we have considered when estimating beta for Airwave and with our gearing estimate.

[718] We note that monthly asset betas are materially lower for UK utilities, averaging around 0.30.
[719] Yield is calculated from iBoxx GBP Liquid Corporates Large Cap Index available on Markit.

Figure J-8: Corporate bond annual yields, 2001 to 2021



Source: IHS Markit, CMA analysis

76 The average yields are set out in Table J-4. We compared these figures with the debt costs of 3.5% used by Goldman Sachs in their valuation of the Airwave business (see Figure J-1) and 4.2% used by Deloitte. We note that the yields on these indices were around 3.5% in 2016, albeit yields were around 3 percentage points higher as of 2001, while the current costs of debt are around 1 percentage point lower.

Table J-4: Average corporate bond yields

	iBoxx Corp A	*iBoxx Corp BBB*	*iBoxx Utilities*
Av. yield 2001[29]	6.5%	6.9%	6.4%
Av. yield 2001 to 2019	5.0%	5.5%	4.8%
Av yield 2019 to 2020	2.1%	2.7%	2.5%

Source: IHS Markit, CMA analysis

77 On this basis, we consider that a nominal cost of debt of approximately 6.5% was appropriate as of the beginning of the historical period, ie around 2001.

Gearing

78 We considered both the analysis undertaken by Goldman Sachs and Deloitte for Motorola, as well as the gearing of comparator firms in coming to a view on the appropriate gearing assumption for the Airwave business.

79 Goldman Sachs assumed gearing of between 40% and 60% in its valuation of the business, while Deloitte assumed gearing of only 20%.

80 The Home Office highlighted that Airwave Solutions currently has no debt in it and that this level of gearing is reasonable in the context of a business with an uncertain and limited lifespan.[720]

81 Table J-5 shows the average gearing of the comparator group of firms over the last decade. The UK utilities as a group have higher average gearing than the other firms in the sample, with gearing of between 35% and 55%. The gearing of the other firms varies materially across the group but averages around 25%.

Table J-5: Gearing levels of the comparator firms (%)

Company	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**Average**
Severn Trent	52.5	51.6	47.8	47.5	48.0	50.7	56.5	50.3	54.0	46.2	**50.5**
National Grid	45.0	43.0	38.9	40.8	44.6	44.3	49.9	45.7	50.1	51.8	**45.4**
United Utilities	55.9	56.4	49.6	50.4	53.5	56.5	59.7	55.1	56.9	51.3	**54.5**
SSE	27.9	30.8	27.6	24.5	31.3	35.4	46.1	40.0	38.1	33.6	**33.5**
UK utilities avg	***45.3***	***45.4***	***40.9***	***40.8***	***44.4***	***46.7***	***53.0***	***47.8***	***49.8***	***45.7***	
Serco	20.6	23.3	39.9	21.0	8.3	14.6	19.2	9.7	25.5	28.2	**21.0**
BAE	6.6	7.5	6.9	10.7	9.2	8.5	11.3	15.6	17.6	17.1	**11.1**
Atlantia	53.0	43.1	40.6	34.1	36.2	31.9	40.5	63.2	68.4	55.8	**46.7**
VINCI	41.0	30.7	36.6	29.0	27.8	23.6	27.8	29.4	31.8	26.3	**30.4**
Ferrovial	41.3	37.8	34.4	30.5	31.6	24.8	23.8	19.7	18.3	15.8	**27.8**
Other firms avg	***32.5***	***28.5***	***31.7***	***25.1***	***22.6***	***20.7***	***24.5***	***27.5***	***32.3***	***28.6***	
Average	***38.2***	***36.0***	***35.8***	***32.1***	***32.3***	***32.3***	***37.2***	***36.5***	***40.1***	***36.2***	

Source: Refinitiv and CMA analysis.

82 We note the current lack of debt in Airwave Solutions and the Home Office's submissions on this point. We consider that it is reasonable to assume zero gearing in a business such as this, ie 100% equity funding, for the period from early 2020 onwards. For the PFI period, we have continued to use a gearing range of 35% to 50% based on the overall sample average and the UK utilities average as set out in the table above.

Company-specific premium, hurdle rates and time period uncertainty

83 We observed that the Deloitte Report included a company-specific premium of 8% when estimating a cost of capital for Airwave Solutions, which it describes as being 'to account for uncertainty regarding how long the cashflows are expected to be generated from the existing LMR network system acquired from Airwave.'[721]

[720] Home Office submission and response to working papers, 24 May 2022, paragraph 71.
[721] Deloitte report for Motorola, 3 August 2016, page 42. [✂]

84 Similarly, we have considered Motorola's various submissions on the need for a hurdle rate in light of the material project-specific risks associated with the Airwave Network and the observation that the agreed IRR in the PFI Model clearly included a material uplift on a standard WACC for a business of this type.

85 The key theoretical premise of the CAPM is that investors are able to diversify their risk and therefore only require an additional return to the extent that the returns expected from investing in a given business are correlated with those of the broader market, ie systematic risk. (This is accounted for via beta, as discussed above.) They do not require compensation for company-specific risks since these can be diversified away. For this reason, we do not believe that an uplift should be provided to the WACC for an activity.

86 However, we recognise that the existence of material asymmetric risks in relation to cash flow needs to be taken into account, and that this may be done in two ways:

(a) By using a hurdle rate, rather than a WACC, as the benchmark against which firms assess the project and against which it is relevant to assess its performance for profitability purposes; or

(b) By considering a range of scenarios and probability-weighted cash flow forecasts. We observe that the Goldman Sachs report undertook a valuation of Airwave Solutions which adopted this approach, ie considered different potential periods over which cash flows would be received and the probability of each of those being realised.

87 In this case, we make the following observations:

(a) There appear to have been such material downside risks associated with building and operating the Airwave Network during the original PFI period – demonstrated by the significantly higher costs incurred by Airwave in constructing the network – and these had been reflected in an uplift on a standard WACC of around 8 to 10 percentage points;

(b) We note that this hurdle rate was agreed on, and in our view, logically applies to the police element of the contract only. We note that once the network was built, there was more limited scope for such cost over-runs, and that Airwave would have had better knowledge and understanding of the costs of developing its network and could reflect those in the prices agreed (including with the other emergency services and sharer organisations);

(c) The risks associated with the uncertain time period are more difficult to quantify and have evolved over time, with the end date moving from 2019 to 2022, then 2026 and now expected to be 2029 or possibly later. The Deloitte Report (prepared in 2016) assumed a [✂]% likelihood of ending in 2020,

[✄]% in 2022 and [✄]% in 2025. However, by the end of 2019, ie the start of the post-PFI period, we note that Motorola's expectations had extended significantly. For example, it had moved to depreciating the Airwave assets over the period to 2029. We note that our (pre-tax nominal) WACC estimates for this period range from 3.7% to 8.8%, with a mid-point of 6.25%. In order to reflect the impact of this uncertainty in terms of the time period, we have:

(I) Used a WACC of 8.8% as our base case, ie at the top end of our range; and

(II) Considered a sensitivity of 14.25%, ie the mid-point plus Deloitte's [✄]% estimated uplift.

(d) However, under the terms of our charge control, Airwave faces neither the original development risks that it did under the PFI period, nor any material risks associated with time period uncertainty (given the protections in terms of return of the RAB and covering decommissioning and redundancy costs in the case of early termination). Therefore, we conclude that it would not be appropriate to include any uplift in the WACC used for the charge control.

88 Finally, we considered Motorola's submission that it faces particular challenges and risks arising from the ageing technology used in the network and the need to refresh the network. We note that i) these risks are very much business specific and do not, under the CAPM framework require any additional return , and ii) in our charge control, we have put in place a number of measures to allow Airwave to manage these risks, including a £28 million risk allowance, a specific adjustment in relation to the BT switches matter, a 25% cost-sharing mechanism for externally-procured capex, and a review in 2026 when it will have the opportunity to seek further cost allowances where it can provide evidence to support the requirement for higher spending. Therefore, we have not made any further allowances for this issue in the cost of capital used either as the profitability benchmark or for our charge control.

Small company premium

89 As noted above, the key insight of the CAPM is that no incremental return is required for company-specific factors – including size – beyond covariance in returns with the broader market. We note that there are other asset pricing models, such as the Fama French three factor model, which include a size factor. However, we observe that the evidence to support the statistical significance of the factors posited in this model in the UK context is mixed at best and that the rationale for a small company premium is unclear and may well not apply to a business such as Airwave Solutions, which is critical infrastructure with revenues which are guaranteed by the UK state. The CMA has previously considered the inclusion of a small company premium for Bristol Water, allowing an uplift with

respect to debt and associated liquidity costs. However, we note that Airwave Solutions has revenues that are approximately five times larger than Bristol Water. In this context, we consider that such uplift cannot be justified.

Country Risk premium

90 Finally, we note that Deloitte estimated a cost of capital using US benchmarks and then applied a UK-specific country risk premium to adjust for the difference in market risks between the UK and the US.

91 We note that our analysis has been based on UK-specific metrics (RFR, TMR, and to an extent Beta values, where significant weight has been placed on UK utilities). In this context, we do not consider that any further country-specific adjustment is required as the risks of the UK market are fully reflected in the parameters estimated.

Conclusions on WACC

92 Our WACC estimates are between 8.1% and 10.2% as of 2001 (mid-point of 9.1%), declining to between 3.7% and 8.8% (mid-point of 6.25%) by the end of 2019. For the charge control period, ie mid-2023 onwards, our WACC estimates are between 5.6% and 10.3%, with a mid-point of 7.9%. All figures are stated on a pre-tax nominal basis.

Table J-6: CMA estimates of WACC

	Estimate for'"PFI' period (as of April 2001)		Estimate for 'post-PFI' period (as of late 2019 / early 2020)		Estimate for the charge control period	
	Low	High	Low	High	Low	High
RFR (CPI-real)	2.5%	3.0%	-2.0%	-1.0%	0.5%	0.7%
Equity beta[722]	0.60	0.76	0.35	0.55	0.35	0.55
TMR	6.2%	7.5%	6.2%	7.5%	6.2%	7.5%
CPI Inflation	2.0%	2.0%	2.0%	2.0%	2.0%	3.0%
Tax	30%	30%	22%	22%	25%	25%
Gearing	50%	35%	0%	0%	0%	0%
Kd pre-tax	6.5%	6.5%	2.5%	N/A	N/A	N/A
Kd post-tax	4.6%	4.6%	1.9%	N/A	N/A	N/A
Ke post-tax	6.8%	8.5%	2.9%	6.8%	4.2%	7.7%
Ke pre-tax	9.7%	12.2%	3.7%	8.8%	5.6%	10.3%
WACC Pre-tax (nominal)	**8.1%**	**10.2%**	**3.7%**	**8.8%**	**5.6%**	**10.3%**

Source: CMA analysis

93 We note our WACC estimates for the 'post-PFI' period are in line with the range estimated by Goldman Sachs at the time of Motorola's acquisition of Airwave Solutions from Macquarie, and slightly below those used by Motorola for its impairment reviews, although, as noted above, Motorola has stated that its estimates for that purpose are conservative. Our WACC estimate as of 2001 is above the later estimates and – at the upper end of our range – is similar to the WACC included in the PFI model.

Assessment of an appropriate cost of capital for the charge control

94 In light of the above assessment, we considered how our estimate of the cost of capital should be applied in the context of our charge control. In particular, we considered the following points:

(a) Whether to use a real or nominal cost of capital;

(b) The extent to which estimates should be 'rolled forward' to ensure they reflect current and future market conditions. We considered that this was most relevant for the risk-free rate and that other elements of the calculation should be taken as fixed; and

[722] Note: the equity betas differ slightly due to the differing tax and gearing rates. The underlying asset beta range is the same across both time periods (a range of 0.35-0.55).

(c) Whether to use the mid-point of our WACC range or to ‘aim up’ to mitigate risks and/or ensure incentives to invest.

95 We have decided to:

(a) Apply a CPI-real cost of capital and inflate the asset base according to actual inflation in each year (see Appendix K for further details). Using the figures in [Table J-6], this gives a real pre-tax WACC range of 2.9% to 6.1%;

(b) Use a six-month average of ILG yields to estimate the relevant risk-free rate for the charge control, using the latest data available at the time that our Order is put in place. This is likely to give a risk-free rate that is slightly different from the figures set out above, depending on market movements between now and then;

(c) Apply this risk-free rate for the period from mid-2023 to the review in 2026 and then update the estimate using the latest data available at that time. We note that this will ensure the risk-free rate remains relevant throughout the charge control period and is in-line with the approach adopted by most regulators in the UK;

(d) Use a 25% tax rate for the period from mid-2023 to the review in 2026 and then update the estimate using the latest data available at that time; and

(e) Use the upper end of our WACC range. 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.

APPENDIX K: APPLYING THE CHARGE CONTROL REMEDY

Introduction and summary

1 Our decision to introduce the charge control remedy is set out in section 8. This appendix provides further detail on how the charge control remedy will be applied and the assessments that underpinned its development, including our assessments of issues raised in parties' submissions.

2 The following sets of issues are addressed in turn:

(a) Charge control design: including the scope, form and duration of the charge control, and the information provision requirements it will include.

(b) Charge control calibration: the levels at which charge control inputs and allowances will be set.

(c) Reporting requirements and assurance.

3 Our conclusions on charge control design are summarised in Figure K-1, and the revenue allowances that will be provided for under the charge control are shown in Table K-1.

Figure K.1: Summary of our conclusions on charge control design

The charge control remedy will:

- Take effect from the commencement of our 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).
- Apply to the products and services provided by all Airwave Solutions' business lines, with the exception of: Ambulance Bundle 2; Pronto; 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.
- Specify an overall revenue allowance for each year of the control that will limit the level at which charges for services within the scope of the control are set, subject to defined indexation arrangements, and to adjustments as a result of the cost sharing mechanism described below.
- 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.
- 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.
- Specify reporting and assurance requirements through which Airwave Solutions will be required to demonstrate compliance.

Table K.1: The revenue allowances provided for under the charge control remedy (before indexation and cost-sharing adjustments)

£million

	2023	*2024*	*2025*	*2026*	*2027*	*2028*	*2029*
Allowed revenue	217	220	219	216	213	209	204

Source: CMA analysis
Notes: The indexation arrangements are set out in paragraph 104 and paragraphs 144-145. As set out in paragraph 144, 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 our Order is put in place.

Charge control design issues

4 Charge controls can be developed and applied in a range of different ways, and the appropriateness of different approaches can be affected significantly by

characteristics of the context within which the control is being introduced. In this section, we address:[723]

(a) The scope of the charge control: ie the services it will apply to.

(b) The approach that will be taken to provisions related to service quality.

(c) The form the charge control will take, and in particular:

  (I) The role to be played by the up-front assessments of costs.

  (II) How the control will be applied to charges for different network services.

  (III) The flexibility for charges to deviate for the levels identified under the control.

(d) The duration of the charge control: the time period over which it will apply.

In each case, we summarise the provisional views that were included in the PDR, before providing our assessment of the issues raised in submissions we received in relation to those provisional views.[724] We then set out our conclusions.

The scope of the charge control

Our provisional assessment in the PDR

5 Our provisional view was that the charge control should apply to the products and services provided by all of Airwave Solutions' business lines, with the following exceptions:

(a) Ambulance Bundle 2.

(b) Pronto (a data solution offered to police services).

(c) CCCRS (a command central control room solution offered to police services).

(d) Radio terminals, except where part of a managed service.

(e) Services associated with the development and provision of a new alternative interworking solution.

6 We noted that the Home Office had requested that we consider further the treatment of CCCRS services but had not provided evidence to support why it

[723] These issues were identified and initially considered in our Potential remedies working paper, 16 May 2022, paragraphs 27–72.
[724] Our framework for assessing potential remedies is set out in section 8.

would be appropriate for CCCRS services to be included within the scope of the charge control. Given this, we invited further views on the extent to which relevant CCCRS services can be procured from other parties such that users can switch to alternative providers over time.

Parties' submissions in response to the PDR

Motorola's views

7 Motorola said that in its view it did not make any sense to include CCCRS services within the scope of the charge control as CCCRS is a software business where each contract is vigorously competed for and where Airwave Solutions is not in a leading market position.[725] Motorola also submitted that there had not been any assessment of the way in which contracts with sharers had been negotiated and how this was linked to the alleged competition failure.[726]

Home Office views

8 The Home Office said it agreed with the exclusion of Pronto and radio terminals (except where part of a managed service) but recommended including Ambulance Bundle 2 services within the scope of the charge control.[727] The Home Office said that the Ambulance Bundle 2 contract had been due to expire on 31 December 2022, but due to ESN roll-out delays, it had been necessary to extend the contract with Airwave Solutions.[728] The Home Office submitted that Motorola had a position of market power and that the Department of Health and Social Care would likely be unable to negotiate competitive rates.[729] The Home Office also requested that effective transparency and access regulation requirements be placed on Airwave Solutions to preserve the contestability for CCCRS.[730]

Assessment

9 For a charge control to remedy, mitigate or prevent the detrimental effects on customers resulting from the AEC as comprehensively as is reasonable and practicable, we consider that it should be applied to all those services where the supplier is likely to be able to price above competitive levels and thereby able to earn supernormal profits. Proportionality requires that it should not apply more broadly than is required to address the detrimental effects of the AEC, ie to any

[725] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 30.
[726] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 30.
[727] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.6.
[728] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.7.
[729] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.7.
[730] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.8.

products or services where there (already) exists a reasonably effective competitive constraint.

10 In line with this, we identified Pronto and radio terminals (except where part of a managed service) in our potential remedies working paper, and in the PDR, as services in relation to which there was likely to be an effective competitive constraint such that they should they be excluded from the charge control, and we note that the Home Office agreed with these exclusions. Also, as set out in section 5, the Interface Agreement provides for the provision by Motorola of a new interworking interface at an agreed price that we have not identified as inconsistent with the cost-plus principles that were included in the PDR. We provide our assessment of issues raised in relation to Ambulance Bundle 2 and CCCRS services below, before setting out our conclusions on the scope of the charge control. We address Motorola's comments on contracts with Sharers in paragraph 68 as part of our assessment of how the charge control should be applied.

Ambulance Bundle 2

11 In the PDR, we noted that Motorola had told us that the Ambulance Bundle 2 contract covered control room services and terminals (including terminal support), and that the Department of Health and Social Care had split the Ambulance Bundle 2 requirements and awarded contracts to Frequentis (control room services) in 2016, Terrafix (mobile data services) in 2019, Exponential E (service partner) in 2021 and was looking to tender for LTE devices.[731] Motorola said that the Ambulance Bundle 2 contract with Airwave Solutions was set to roll off in 2022-2023 once the new providers went live.[732] The PDR also noted a submission we received from the Department of Health and Social Care (DHSC)/Ambulance Radio Programme (ARP) at an early stage of our investigation which referred to its aspirational objective of exiting much of the Ambulance Bundle 2 services at the end of 2022.[733] We noted that this appeared consistent with Motorola's comment that the Ambulance Bundle 2 contract with Airwave Solutions was set to roll off in 2022-2023 once new providers went live.

12 We note that in response to our questions, the Home Office said that a further extension of the Ambulance Bundle 2 contract with Airwave Solutions is 'almost certain', but we also note the Home Office's observation that such an extension may be narrower in scope than the current contract.[734] This latter comment is consistent with there being scope for relevant services to be provided by suppliers

[731] Motorola's response to the profitability methodology working paper, 10 January 2022, section 2.
[732] Motorola's response to the profitability methodology working paper, 10 January 2022, section 2.
[733] Department of Health and Social Care/Ambulance Radio Programme submission, 2 September 2021, page 3. [✂]
[734] Home Office response to Question 4 of RFI dated 22 December 2022. [✂]

other than Airwave Solutions, and with the possibility of switching to alternative providers remaining under active consideration. While the Home Office's response to the PDR indicated that the transition away from using Airwave Solutions to provide the services currently delivered under the Ambulance Bundle 2 contract has progressed more slowly than had previously been anticipated, we do not consider the evidence submitted to us on this matter to provide a basis for including these services within the scope of the charge control remedy.

CCCRS

13 We note that the Home Office's stated concerns regarding CCCRS did not relate to the possibility that the level Airwave Solutions' charges for CCCRS services might exceed those one would expect in a competitive market. In particular, we note that:

(a) The Home Office identified six different organisations (including Motorola) as key suppliers,[735] and referred to Motorola as currently having ICCS contracts with five, out of 45, police forces.[736]

(b) The Home Office said its concern was that Motorola has the ability and incentive to delay transition to ESN by delaying necessary control room upgrades.[737]

(c) 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.[738]

14 We consider these submissions to provide further support for excluding CCCRS from the scope of the charge control. Our broader assessment of the Home Office's submissions in relation to control room services – and, in particular, its proposal that additional remedies should be applied in relation to control rooms – is set out in section 8.

Conclusion

15 We have concluded that the charge control remedy will apply to the products and services provided by all of Airwave Solutions' business lines, with the following exceptions:

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[735] Home Office's additional submission, control rooms, 14 December 2022, paragraph 2.2.
[736] Home Office's additional submission, control rooms, 14 December 2022, paragraph 4.2.
[737] Home Office's additional submission, control rooms, 14 December 2022, paragraphs 1.1–1.2.
[738] Home Office's additional submission, control rooms, 14 December 2022, paragraph 2.10.

(a) Ambulance Bundle 2.

(b) Pronto.

(c) CCCRS.

(d) Radio terminals, except where part of a managed service.

(e) Services associated with the development and provision of an interworking interface solution.

The approach taken to provisions related to service quality

Our provisional assessment in the PDR

16 In the PDR, we noted that it is common for charge controls in regulated sectors to include a range of provisions related to service quality and/or the delivery of some defined outputs. That is, charge controls often include provisions that relate not simply to charge levels, but also to the specification of the services that the relevant charges are intended to provide for. We observed that, for Airwave Network services, there are existing contractual arrangements aimed at ensuring the appropriate provision of service quality over time, and that we had not received submissions pointing to material deficiencies in those existing arrangements. In the light of this, our provisional view was that the charge control should not include additional provisions related to performance targets for service quality.

17 The financial implications for Airwave Solutions of performance that falls short of contractually defined target levels, is that service credits may need to be applied, and that the level of relevant service credits is determined by reference to the level of the charges that are payable for the relevant services. Our provisional view was that the service credits to be applied when Airwave Solutions' performance falls short of contractually defined target levels should continue to be set at levels equivalent to those that would have applied were a charge control not to be introduced. We provisionally concluded – given evidence on the limited extent of service credits over time,[739] and the scale of the proposed capex allowances – that this approach to the determination of service credit levels should not be viewed as generating any material additional factors that might be expected to affect allowed revenue levels.

18 We noted that both Motorola and the Home Office had emphasised the potential for future service quality issues to arise under charge control arrangements and

[739] As noted in Appendix B, only 0.07 per cent of revenues were paid back to the three main emergency service users in service credits over the ten years to the end of 2020.

said that we understood those concerns to relate to the particular forms a charge control might take, and/or to how a charge control might be calibrated. Our provisional assessment of those submissions was provided in relation to those matters (see paragraph 26 of Appendix K of the PDR).

Parties' submissions in response to the PDR

Motorola's views

19 Motorola said in proposing this approach to service credit levels, the CMA was effectively acknowledging that – at the prevailing terms for service credits in combination with the prices permitted under the charge control – Airwave Solutions would have insufficient incentive to meet the agreed service levels.[740] Motorola also said that, on a purely practical level, it was difficult to see how service credits could be calculated on the basis of revenue/billing figures that no longer existed.[741] Motorola said that the proposed approach involved effectively rewriting another set of contract terms, and doubling the share of revenues that were at risk in the form of service credits for failure to meet performance targets.[742]

Home Office views

20 The Home Office said it welcomed the proposal in the PDR not to allow the absolute amount of service credits payable (when service performance had fallen short of target levels) to lessen as a result of the introduction of the proposed charge control remedy.[743] The Home Office noted that such an approach could be implemented by retaining the current methodology for calculating service credit levels, but applying a fixed multiple to offset the effect of the reduction in charges resulting from the introduction of the charge control remedy.[744]

21 However, the Home Office said it had developed its thinking since its response to our potential remedies working paper, and 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.[745] The Home Office said that there are two key aspects to the existing service monitoring and incentive regime, which cover network outages:[746]

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[740] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 30.
[741] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 30.
[742] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, pages 30–31.
[743] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.57.
[744] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.58(b).
[745] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 1.14.
[746] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.48.

(a) Service Levels: for each emergency service (police, fire and ambulance), these are agreed and measured parameters within which Airwave Solutions must provide network service at each base station site. A service unavailability threshold is specified for sites, measured in minutes, and the Home Office is entitled to payment from Airwave Solutions in the form of pre-specified service credits if the threshold is not met.

(b) Service Targets: these refer to service availability (and overall %) for the various services provided, with separate targets for radio voice services specified for police, ambulance and fire. Airwave Solutions' performance against the targets is assessed over a three-month period (for police) or a one-month period (for fire and ambulance). A failure to meet a service target does not result in service credit payments.

22 The Home Office said that, while the existing service quality arrangements had been sufficient to date,[747] Motorola's incentive to provide lower service quality may be exacerbated under a charge control.[748] The Home Office questioned whether the service standards and penalties – set over 20 years ago – remain fit for purpose,[749] and submitted that current sanctions do not provide adequate deterrence and are unfair to users (as the level of service credits is small relative to the cost of outages).[750] The Home Office proposed that the following changes be made to the service credit arrangements:

(a) The 'Service Credit 1' amounts (calculated as a 24-hour equivalent of the annual charges that could be associated with the corresponding base station, adjusted for a service weighting factor) should be increased by a multiple of three (based on current service credit levels).

(b) The service targets for police (currently 99.74%) should be upgraded to those currently required for fire ([✂]%).

(c) Service credit arrangements should be introduced in relation to service targets,[751] and the Home Office proposed a method that could be used to do this.[752]

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[747] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.51. The Home Office's further submissions on service quality to date are considered in paragraph 23.
[748] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraphs 7.40 and 7.47.
[749] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.52.
[750] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.56.
[751] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.59(c).
[752] Home Office's additional submission, service levels, 8 December 2022.

Assessment

23 While we note the Home Office's submissions at a late stage in our investigation pointing to some recent concerns with respect to service quality,[753] we consider the evidence provided to us throughout the course of the investigation to support the view that there have not been material concerns related the quality of service under the existing contractual arrangements. In particular, we note that:

(a) In its May 2022 response to our potential remedies working paper, the Home Office said that 'the existing contractual provisions between the Home Office and Airwave Solutions have not led to significant concerns regarding service quality to date'.[754]

(b) In its November 2022 response to our PDR, the Home Office said that the existing service quality arrangements had been sufficient to date.[755]

24 We consider this important when considering the appropriateness of potential changes to the service quality arrangements. We were not persuaded that these arrangements should be viewed as no longer fit for purpose because of the passage of time that has elapsed since they were put in place. We note, in that respect, that the absence of service credit requirements in relation to a failure to meet a service target has been a feature of the arrangements throughout, and that the level of service credits payable when a service level has not been met has been based on the prevailing level of charges, and those charge levels have been updated over time in line with the indexation provisions included in the PFI Agreement.[756]

25 Further, with respect to the Home Office's concerns over the lower service target applying to police, as opposed to fire and ambulance, services, we note that this is not a new feature of the arrangements, and that there has been an absence of material concerns related the quality of service under the existing contractual arrangements notwithstanding it. In this context, we also note that Motorola told us that – based on the majority (albeit not all) services sharing a common underlying infrastructure – it is not possible to target lower levels of service, and that, given this, police users have benefited from the higher levels of performance provided for in relation to ambulance and fire users.[757]

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[753] Home Office Follow-up submission on the quality of service, 7 February 2023, paragraph 16.
[754] Home Office's submission and response to the CMA's working paper on potential remedies, 31 May 2022, paragraph 10.
[755] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.51.
[756] The distinction between Service Targets and Service Levels is explained in paragraph 21.
[757] Motorola's response to CMA RFI dated 16 January 2023, question 7(b). [✂]

26 Given this context, and in line with the proposal in the PDR, our assessment is that the level of service credits to be applied when Airwave Solutions' performance falls short of existing contractually defined service levels should continue to be set at levels equivalent to those that would have applied were a charge control not to be introduced. This will avoid the financial implications for Airwave Solutions of a deterioration of service quality being lessened as a result of the introduction of the charge control. We note Motorola's submission on the implications of this approach for the extent to which its revenues would be exposed to failures to meet performance targets. However, in line with our provisional assessment in the PDR, our view is that the approach should not be treated as generating material additional factors that affect how allowed revenue levels should be set, given the limited extent to which service credits were required over the ten year period from 2010 to 2020,[758] the scale of the capex allowances provided for by the charge control, and the risk mitigation mechanisms included in the charge control remedy.

27 As noted in paragraph 20, the Home Office submitted that this approach could be implemented by retaining the current methodology for calculating service credit levels, but applying a fixed multiple to offset the effect of the reduction in charges resulting from the introduction of the charge control remedy. Motorola told us that, in its view, the approach the Home Office had suggested as a means of implementing this would be practical, provided that a uniform discount was used across all services.[759] We have concluded that the charge control remedy will include the use of a single adjustment factor (for each year) such that service credit levels are broadly in line with those that would have applied were a charge control not to have been introduced.

28 The Home Office's proposals for more extensive changes to the service quality arrangements were underpinned by concerns over Motorola's potential commercial reaction to the introduction of a charge control, and in particular that Motorola might choose to pursue a strategy of under-investing in the Airwave Network, with that resulting in a degradation of network performance, and service availability and quality.[760] The Home Office's proposed changes to the service target and service credit arrangements provide one potential way of seeking to address this risk,[761] but would require detailed interventions into the service quality arrangements, and the development of robust ways of determining and recalibrating service credit provisions. Our view is that this would raise a range of

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[758] See Appendix B.
[759] Motorola's response to CMA RFI dated 16 January 2023, Annex 1B, question 4(a). [✂]
[760] Home Office response to CMA RFI dated 22 December 2022, Annex A, Part 2, Question 1. [✂]
[761] The Home Office's proposals with respect to asset stewardship and financial resilience are considered in paragraphs 50-52.

additional, complex assessment challenges and would not be likely to provide an effective and proportionate response.

29 We have considered carefully the risk that the charge control remedy might have unintended consequences, including on service quality, as an integral part of the process through which we have designed and calibrated the charge control remedy. Our assessment of that risk, and of how it is taken into account in the charge control remedy, is set out in section 8 and in paragraphs 40 to 58 and 80 to 149 of this Appendix, and includes consideration of how 'non-delivery' of what had been funded through the charge control should be taken into account at the 2026 charge control review, and in subsequent allowances. Our view is that through its design, calibration, information provision and review arrangements, the charge control remedy provides an effective and proportionate means of managing risks related to service quality.

The form the charge control will take

30 A key dimension of the form that a charge control can take is the role played by up-front assessments of costs. In our potential remedies working paper, we distinguished between two high-level approaches:[762]

(a) A charge cap approach, under which specific allowed charge levels would be determined up-front and would be intended to apply for the duration of the control period. In line with that approach, all relevant cost assessment activity would be undertaken up-front, and used to calibrate the specific charge cap levels that were set.

(b) A cost of service (or rate of return) approach, under which charge levels would be set on an indicative basis initially. The allowed return on capital would be specified, but beyond this, the revenue that could be recovered through charges for relevant services would be dependent on costs actually incurred during the control period, rather than on up-front assessments.

31 In the PDR (and in a more preliminary manner in the potential remedies working paper), we considered the risks associated with those approaches, and potential options for guarding against those risks, including: cost-sharing mechanisms; applying different approaches to different categories of costs; information provision requirements; transfer charging rules; charge control deliverables; and capex re-openers.

[762] Potential remedies working paper, 16 May 2022, paragraph 49.

Our provisional assessment in the PDR

32 In the PDR, we proposed that charge control arrangements should include:

(a) An overall revenue allowance for each year of the control that was fixed up-front, subject to the indexation arrangements and adjustments that are required as a result of the following cost sharing mechanism.

(b) A cost-sharing mechanism that applied to capex on external (ie non-Motorola sourced) equipment. Our provisional view was that a symmetric cost sharing rate of 75% would be appropriate such that Motorola would retain 75% of savings achieved relative to target level (for external equipment capex) set in the charge control (with the other 25% subsequently returned to customers), and Motorola would bear 75% of any over-spend relative to the target level (with the other 25% passed on to customers). We proposed that this would be provided for through pre-defined adjustments that could be made to subsequent allowed charge levels.

(c) Information provision requirements – of the form set out below – related to the evolution of Airwave Solutions' capex plans and spending levels over time, in the form set out below.

33 With respect to information provision requirements, our provisional view was that the charge control should include requirements on Airwave Solutions to provide information to the Home Office, Airwave Network users and the CMA in a clear and timely manner on:

(a) Material changes to its capex plans: Airwave Solutions should explain why those changes have been considered appropriate and it should set out its assessment of what effects those changes may have on future service provision risks and cost requirements.

(b) Material deviations between actual capex levels and: (a) those that were included its capex plans; and (b) those that have been specified within the charge control arrangements. This should include deviations between actual and forecast levels of capex that is Motorola-sourced, and that is on external (ie non-Motorola sourced) equipment. Airwave Solutions should explain the factors that have given rise to these deviations (including the extent to which they relate to price levels being different to those that had been assumed in capex plans, and associated cost forecasts), and should set out its assessment of the implications the deviations may have on future service provision risks and cost requirements.

34 Our provisional view was that, to support these information provision requirements, an obligation should be placed on Motorola to respond in full, and in a clear and timely manner, to Home Office, Airwave Network user and CMA

queries and requests for further clarification and substantiation with respect to the information provided under (a) and (b).

Parties' submissions in response to the PDR

Motorola's views

35 Motorola said that the CMA's assessments of cost-of-service and charge cap approaches appeared to be driven by the same concern – that Motorola may overstate capex requirements and use transfer pricing to inflate Airwave Solution's cost – and that there was no justification for this.[763] Motorola said that under a cost-of-service approach Airwave Solutions would be protected from higher than expected capital expenditure, and that this consideration appeared to be entirely absent from the assessment.[764] Motorola submitted that the proposed approach would expose Airwave Solutions to considerable risks, and that there would be a risk that that efficient investment could not be recovered.[765] Motorola said that many of the investments that are needed to maintain service quality may be difficult to predict and the nature of the service requires pre-emptive actions.[766] It said that Airwave Solutions would have serious concerns about doing what might be necessary to mitigate risks if it had to expect that the CMA or the Home Office would ex post, after the downsides had not materialised, disallow expenditure which it considered to be unreasonable.[767]

36 Motorola said that the discussion of various charge control approaches in the PDR was underpinned by the assumption that Motorola-sourced inputs are overpriced, generating margins for Motorola that might distort incentives, and that the CMA had found no confirmation for this.[768] Motorola questioned the justification for limiting the cost sharing mechanism to third party sourced capex in the absence of firm evidence of transfer charges being inflated.[769] Motorola said that the PDR assessment supposed that it could substitute third-party equipment for its own (if it were able to recover overspend on third party capex), and said that in reality there was very limited possibility for such substitution.[770] Motorola said that it would

[763] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 31.
[764] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, pages 31–32.
[765] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, pages 32 and 34.
[766] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 32.
[767] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 33.
[768] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 34.
[769] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 36.
[770] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 36.

have expected the CMA to provide evidence of substitution possibilities if this was the reason for 'loading' 75% of the burden of overspend on Airwave Solutions.[771]

37 Motorola said the proposed charge control would create substantial additional reporting burdens that were entirely disproportionate and that did nothing to deal with the problem that actual expenditure may need to be significantly higher than forecast expenditure.[772] Motorola said there was no justification for requiring Airwave Solutions to provide detailed information about any changes to the capital expenditure programme that it considers necessary on an ongoing basis, given the charge control approach that had been proposed.[773] Motorola said that the Home Office and its main users already receive regular, periodic updates on Airwave Solution's capex plans and the status of those projects.[774]

Home Office views

38 The Home Office said that while it had favoured a cost of service form of control in a previous submission, it accepted the general approach proposed in the PDR.[775] However, the Home Office submitted that additional measures should be introduced that would limit Motorola's ability and incentives to degrade service quality.[776] The Home Office said that under a charge cap regime, underspend is kept by the firm subject to the cap, creating an incentive to cut costs.[777] The Home Office said that while costs can be reduced by genuine efficiency, they can also be reduced by not undertaking some activities that were planned when forecasts were provided, and potentially putting the security of service and asset stewardship under risk.[778] The Home Office submitted that, in addition to its proposed changes to the service quality arrangements (which were assessed in paragraph 23 to 29), the charge control remedy should have further reporting requirements related to asset stewardship, and clawback provisions related to key milestones for large capital projects, such that if the milestones were not met, and capex was delayed or not spent, the relevant capex allowance would be clawed back.[779]

39 The Home Office submitted that measures to secure the financial resilience of Airwave Solutions should also be introduced, and said that UK monopoly network utilities, as providers of essential services, are – generally speaking – subject to

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[771] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 36.
[772] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, pages 32 and 35.
[773] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 35.
[774] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 33.
[775] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.21.
[776] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.21.
[777] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.27.
[778] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.27.
[779] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraphs 7.68–7.69.

measures designed to ensure that the company has sufficient financial and managerial resources to carry out its activities (including its capex programme).[780] The Home Office submitted that Airwave Solutions should be ring-fenced as a standalone entity, and that there would need to be an adequate equity buffer to ensure financial resilience to shocks and to facilitate necessary investment.[781] As was noted in section 8, the Home Office referred to a letter it had been sent on 25 October 2022 from [✂], for Motorola Solutions, Inc., which included the comment that: '[✂]'.[782] 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.[783]

Assessment

40 We consider the following issues in turn before setting out our conclusions on the form that the charge control will take:

(a) The risk of higher-than-expected capital expenditure.

(b) Assumptions related to Motorola-sourced inputs.

(c) The additional measures proposed by the Home Office.

(d) Capex information provision requirements.

The risk of higher-than-expected capital expenditure

41 We have carefully considered the risks of Airwave Solutions' expenditure requirements being higher than expected throughout the development of the charge control remedy. 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 uncertain to some extent, and 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.

42 As set out in section 8, this risk has been taken into account in the approach we have adopted to calibrating the charge control remedy (including through the inclusion of a capex risk budget at a level Motorola had identified as appropriate), and we consider this approach to provide a robust basis for guarding against the

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[780] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.72.
[781] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.76
[782] 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). We have since received a full copy of the letter.
[783] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 1.14(g).

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. As highlighted in section 8, the design of the charge control includes a number of further risk mitigation mechanisms, including the cost sharing mechanism (see paragraphs 48 to 49), the final settlement arrangements (see paragraphs 128 to 135), and the charge control review in 2026 (see paragraph 79).

43 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. 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.

44 As set out in paragraph 79, the charge control remedy will set revenue allowances – that include provisions for capex – through to 2029, but with a review in 2026, and our view is that the inclusion of a charge control review in 2026 provides an appropriate means – alongside others (see paragraph 42) – of taking account of the risks associated with higher-than-expected capex requirements. With respect to Motorola's comments on the risks of expenditure being disallowed based on an ex post assessment, we note that the review in 2026 will assess whether relevant changes in circumstances have been such as to justify changes to the charge control, but the default will be that the control remains unchanged.

45 Given this, the extent to which there may be some need for ex post assessment at the 2026 review would – other than in the circumstances referred to in paragraph 51, related to service quality deficiencies – be dependent on whether Airwave Solutions was seeking an adjustment to its revenue allowances on the basis that an exogenous change in circumstances had given rise to substantial additional capex requirements (relative to the overall level assumed within the charge control). If Airwave Solutions was proposing that its allowances for 2027-2029 should be higher than those set under the charge control remedy, then the determination of the extent to which the higher identified requirements should be allowed for by increasing the level of the charge control would be expected to include some consideration of how capex levels in the period up to 2026 compared with those assumed in the calibration of charge control. This is because – as was highlighted in the PDR – the level of capex requirements in 2027-29 might have been materially affected by spend decisions in the period up to 2026.

46 The capex information requirements proposed in the PDR were developed in order to provide a more robust information base against which submissions could be assessed were some ex-post review of capex to be required at the 2026 review, and our views on those requirements are set out in paragraphs 53 to 55. We note

that the provision of information to, and engagement with, the Home Office and Airwave Network users, provides a means through which Airwave Solutions can seek to manage relevant risks, by providing clear and reliable information on why material deviations between actual and forecast/planned capex levels in the period to 2026 had arisen (to the extent they had), on what was driving any increased requirements that had been identified.

47 With respect to Motorola's submission that under a cost-of-service approach Airwave Solutions would be protected from higher-than-expected capital expenditure, we note firstly that – in its response to our potential remedies working paper – Motorola raised significant concerns in relation to the adoption of such an approach.[784] We also note that, if operating effectively, such an approach would also remove the scope for Airwave Solutions to benefit from efficiencies it may be able to achieve in the delivery of its capex plans. As we highlighted in our potential remedies working paper, adopting such an approach would involve risks associated with inefficient levels of investment, which may be exacerbated by the extent to which Airwave Solutions sources inputs from Motorola. We noted in the PDR that just over a third of Airwave Solutions' capex in 2021 was sourced from Motorola, and that for 2019 the equivalent figure was around 41%.[785] In the PDR, we set out our provisional view that the inclusion of conditions on the eligibility of costs for recovery through the charge control would not provide an adequate means of guarding against those risks under a cost of service approach, and we have not received evidence or reasoning that has caused us to revise that view.

Assumptions related to Motorola-sourced inputs

48 With respect to Motorola's submissions that we had found no confirmation that relevant transfer charges had been inflated, or of substitution possibilities between Motorola-sourced and externally-sourced inputs, we consider our provisional assessment in the PDR to have provided a robust basis upon which to conclude that there would be material risk of distortions to incentives associated with the extent of Motorola-sourced inputs that could undermine the effectiveness of charge control arrangements. Our detailed assessment of the transfer charging issues is set out in Appendix H. While the available evidence related to transfer charging has not allowed us to make specific conclusions on what the level of charges (for Motorola-sourced capex inputs) should be, we have noted that the average mark-ups charged by Motorola to Airwave Solutions on capital equipment (which average [250 to 300] [✂]%) are materially higher than the average mark-up charged on sales of such equipment across the Motorola group as a whole in 2021

[784] For example, Motorola's response to the CMA's working paper on Potential Remedies, 30 May 2022, paragraph 5.
[785] CMA calculations based on Motorola response to Q5 of CMA RFI dated 8 April 2022. [✂]

(which average [150-200] [✂]%).[786] Our view is that this context, and the extent to which Airwave Solutions' forecasts assume the use of Motorola-sourced inputs, make it important that the design of the charge control remedy takes account of the risk that changes to the use and pricing of Motorola-sourced inputs could undermine the effectiveness of the charge control remedy.

49 Our assessment is that the charge control remedy takes account of this risk in an effective and proportionate manner. It will mitigate to some extent the risk to Motorola that initial allowances levels had been set too low, and – in a symmetric manner – it will mitigate the risk that initial allowance levels had been set at an unduly high level (and allow the Home Office and users to benefit from circumstances where Airwave Solutions' actual third-party capex was lower than the baseline level assumed in the setting of the charge control). The level at which the cost sharing percentage has been set (25%) takes account of the risk that relevant decision making could be distorted by the inclusion of such cost sharing, by encouraging actions that shifted the identification of capex from Motorola-sourced to third-party sourced. As was set out in the PDR, the potential for this distortion arises because Airwave Solutions would face a choice between fully funding internally provided capex (in a context where the fixed up-front allowance would be unaffected by its decision), and funding less than 100% of the costs of the relevant capex, if it was secured from a third-party. Given this context, in our judgement, the use of a higher cost sharing incentive could provide a strong incentive on Motorola to seek to substitute third-party for internally provided capex. Our view is that the inclusion of a mechanism through which 25% of any capex over- or under-spend is shared with users through adjustments to charge levels (with 75% borne by Airwave Solutions), provides an appropriate way of taking account of the different risks we identified (which were considered in further detail in the PDR).

The additional measures proposed by the Home Office

50 In the PDR, we noted that a mechanism which includes charge control deliverables, and a pre-defined scope for revenue adjustments to be made in the future (for example, if the delivery of investment had been delayed), can provide a potential means of better aligning cost allowances with capex requirements that are identified and delivered over time in uncertain contexts. Our view is that using such mechanisms to address asset stewardship risks would be likely to require the detailed up-front specification of what the charge control should be understood as providing for in terms of asset stewardship, and that providing for such up-front specification in this context in an effective manner was unlikely to have been

[786] Appendix H, paragraph 110.

feasible. Also, with required standards of service having been defined and monitored over the life of the Airwave Network, in our view it would be disproportionate to introduce input-based mechanisms of the kind proposed by the Home Office.

51 We take seriously and have considered carefully the risk that remedies that address competition concerns might have unintended consequences, including on the quality of service and safety. The charge control remedy will constrain the levels of revenue that Airwave Solutions will be allowed to recover from Airwave Network services. It will be open to Motorola to adopt a different, lower cost approach to that which was used to calibrate the charge control – and to benefit financially accordingly – provided this retains service quality at the required level. In line with paragraph 45, this would not be expected to have any direct implications for the 2026 charge control review unless a material 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. As set out in section 8, our conclusion is that the charge control remedy – through this and other mechanisms and assumptions it includes –provides an effective and proportionate means of managing risks related to quality of service and safety.

52 We note the additional financial resilience measures the Home Office proposed, but in our view it would not be proportionate to introduce such measures. We have considered how the overall cash position of Airwave Solutions would be expected to evolve during the course of the charge control, and implications this may have for Motorola's ability to withdraw funds from Airwave Solutions, and for Airwave Solutions' ability to fund its forecast capex programme. We have taken these factors into account in the calibration of the charge control (including in the approach taken to depreciation),[787] and do not consider it would be proportionate to introduce further measures of the kind pointed to by the Home Office.

Capex information provision requirements

53 The capex information provision requirements proposed in the PDR were intended to help address the risks that asset stewardship decisions – and, in particular, capex under-spend relative to the levels assumed in the setting of the charge control – could result in:

(a) a deterioration in service quality in future years; and/or

[787] The relationship between the temporal profile of funds and forecast capex requirements was considered as part of our provisional assessment of deprecation options in the PDR (Appendix K, paragraphs 159–163).

(b) a subsequent request for increased revenue allowances to meet higher identified capex requirements.

54 We consider capex information provision requirements to have an important supporting role in relation to the management of these risks, as those requirements can provide a more robust basis for making the assessments of capex levels that are likely to be necessary, should either of these circumstances arise. In doing so, and in requiring Airwave Solutions to provide its assessment of the implications that lower than allowed for capex levels could have on future service provision risks and cost requirements (should such lower spend levels arise), we consider that capex information provision requirements can help mitigate risks associated with asset stewardship. However, having considered Motorola's submissions on this matter, and its responses to our subsequent questions, we have decided that it would be proportionate to introduce capex information provision requirements that are defined more narrowly than those proposed in the PDR.

55 We note Motorola's stated concerns over the prospect of it potentially having to account for every investment decision, and having to respond to queries from the Home Office, its users or the CMA without any apparent limitation to the circumstances under which such queries can be raised.[788] Our view is that the objectives of these information provision requirements can be met in a less burdensome way by aligning the timing of the requirements to provide capex information with the charge control reporting requirements: that is, there will be a requirement for information to be provided annually, alongside information provided under the reporting and assurance requirements, which are focused on compliance with the charge control remedy. We consider this to provide a much more defined and narrower context within which the materiality of changes to capex plans, and potential queries – which we consider should be explicitly limited to 'reasonable queries' – from the from the Home Office, its users or the CMA, would need to be considered. We note Motorola's comments on the costs that might be associated with meeting such information provision requirements. In line with our assessment of reporting requirements in paragraphs 145 to 158, our view is that the capex information requirements would not be expected to result in material incremental costs.

Conclusion on the form of control

56 We conclude that the form of the charge control remedy will be such that it includes:

[788] Motorola's response to CMA RFI dated 16 January 2023, Annex 1A, question 9.

(a) An overall revenue allowance for each year of the control that is fixed up-front, subject to the indexation arrangements set out in paragraphs 104 and 144 to 145, and adjustments that are required as a result of the following cost sharing mechanism.

(b) A cost-sharing mechanism that applied to capex on external (ie non-Motorola sourced) equipment. We have decided that it is appropriate to introduce a symmetric cost sharing rate of 75% such that Motorola retains 75% of savings achieved relative to target level (for external equipment capex) set in the charge control (with the other 25% subsequently returned to customers), and Motorola bears 75% of any over-spend relative to the target level (with the other 25% passed on to customers). This will be provided for through a pre-defined process of adjustment to subsequent allowed charge levels.

(c) Information provision requirements – in the form set out below– related to the evolution of Airwave Solutions' capex plans and spending levels over time.

57 Annually, alongside information provided under the reporting and assurance requirements (set out in paragraphs 154 to 158), Airwave Solutions will be required to provide information to the Home Office, Airwave Network users and the CMA in a clear manner on:

(a) Material changes to its capex plans: Airwave Solutions should explain why those changes have been considered appropriate and it should set out its assessment of what effects those changes may have on future service provision risks and cost requirements.

(b) Material deviations between actual capex levels and: (a) those that were included its capex plans; and (b) those that have been specified within the charge control arrangements. This should include deviations between actual and forecast levels of capex that is Motorola-sourced, and that is on external (ie non-Motorola sourced) equipment. Airwave Solutions should explain the factors that have given rise to these deviations (including the extent to which they relate to price levels being different to those that had been assumed in capex plans, and associated cost forecasts), and should set out its assessment of the implications the deviations may have on future service provision risks and cost requirements.

58 These information provision requirements will be supported by an obligation on Airwave Solutions to respond in full, and in a clear and timely manner, to Home Office, Airwave Network user and CMA reasonable queries and requests for further clarification and substantiation with respect to the information provided under (a) and (b).

How the control will be applied to charges for different network services

Our provisional assessment in the PDR

59 The PDR included proposed allowable revenue figures that related to the set of Airwave Solutions activities within the scope of the charge control, and proposed that those allowable revenue figures be applied to charges for different services in the following way:

(a) On the introduction of the charge control in 2023 (on a pro rata basis for the remaining part of that year):

(I) Charges for non-core services covered by the proposed charge control should be set at their then prevailing levels under the current arrangements.

(II) The level of revenue Airwave Solutions would be expected to earn from the provision of relevant non-core services at those charge levels should be calculated, using forecast volumes for those services where revenues are volume dependent to some extent.

(III) The estimated level of revenue from relevant non-core services (as calculated under (II)) should be deducted from the level of allowed revenue for 2023 (or the remaining part of that year), in order to determine the level of allowed revenue to be recovered from charges for core services.

(IV) Charges for all core services would be reduced by the fixed percentage amount required to align the revenue that would be recovered from those charges with allowed revenue to be recovered from charges for core services (as calculated under (III)).

(b) In future years, charges for all services (ie core and non-core services) should be adjusted (given the opening charge control levels identified under (a), or – where relevant – a 'full year' equivalent) in line with movements in the level of allowed revenues (after indexation and other relevant adjustments have been made).

60 We noted in the PDR that, under the proposed charge control, allowed revenue for a given year would only be known ex post, because:

(a) Allowed revenue would be subject to indexation arrangements and the relevant index level would not be known ahead of when charge levels would need to be set; and

(b) The charge control would provide for cost sharing in relation to external equipment capex, but the actual external equipment capex for a given year would not be known until after the end of that year.

61 We proposed that Airwave Solutions should be required to set charges on the basis of its best estimate of the level of allowed revenue that would apply to the relevant year, and for there to be a mechanism through which the financial effect of differences between the estimated allowed revenue used to set charges and the finalised allowed revenue (after indexation and cost sharing adjustments had been made) could be adjusted for in an NPV neutral way.

Parties' submissions in response to the PDR

Motorola's views

62 Motorola said that revenue from menu and catalogue sales may vary depending on the volume of those services that are used, not how intensely they are used.[789] Motorola said this was important as the extent to which menu and catalogue services are used would have no impact on allowable revenue under the proposed control, and that if variable revenues and costs were entirely captured within this set of services that would be fine, but that otherwise it would not be.[790] Motorola said that the CMA had made a very detailed charge control proposal in the PDR without a full understanding of how revenues may vary.[791] Motorola submitted that the proposed approach in the PDR could give rise to complaints about discriminatory treatment of sharers and users who rely to a larger extent on menu and catalogue services.[792]

Home Office views

63 The Home Office said that the rates agreed on non-core services suffered from the same AEC as the charges for core services, and that therefore the same remedy – a reduction in charges – would be appropriate.[793] The Home Office said that the proposal to cap total allowed revenue but allow Airwave Solutions to keep non-core charges at prevailing levels would mean that different purchasers would cross-subsidise each other, with Airwave Solutions able to earn more than required for non-core services but less than required for core services.[794] The Home Office said that a simple, proportionate adjustment to core and non-core

[789] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 37.
[790] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 37.
[791] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 37.
[792] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 38.
[793] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.10.
[794] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.10.

charges to achieve the target reduction in overall revenue would avoid cross-subsidisation while still allowing Airwave Solutions to earn the same revenue.[795] The Home Office said that its preferred approach would be to keep the current volume-dependency arrangements for those non-core charges that are currently volume dependent, but that there should be no asymmetry between the treatment of increases and decreases in required volumes (with the Home Office having referred to such an asymmetry under the current arrangements).[796]

Assessment

64 Having considered the submissions on this matter, and reviewed relevant evidence further, our conclusion is that the charge control should be applied such that the effect of its introduction and ongoing operation is focused on core and police menu services only. These services accounted for almost [✂]% of Airwave Solutions revenue in 2021 included within the scope of the charge control.[797]

65 We note that the Home Office and Motorola submitted that it would be more appropriate to apply a fixed percentage adjustment to the charges for all of the services within the charge control.[798] However, as we noted in the PDR, Motorola identified revenue associated with the Police Traffic Unit, the Amber Light Contracts and Catalogue/Growth sales (which together accounted for around [✂]% relevant revenue in 2020) as being affected by relevant volumes.[799] We have decided that the charge control should not require adjustments to the charges for these services given the risk of unintended consequences arising if such an approach were to be adopted. In line with our comments in the PDR, we consider there to be a risk that required reductions in the charges for these services (eg as a consequence of applying of the approach preferred by Motorola and the Home Office) may result in a misalignment between Airwave Solutions' costs for the provision of such services, and the revenues it is allowed to collect. For some services, such an approach could potentially generate undesirable incentive effects associated with their provision, in particular, if the additional revenue fell short of relevant incremental costs.

66 In our view, given the focus of investigation on the Airwave Network, and over the overall profitability of Airwave Solutions in its provision of Airwave Network services, we are not well placed to judge the likely materiality of these risks, other than in relation to police menu services for which Motorola identified revenues as

[795] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.11.
[796] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraphs 7.12–7.13.
[797] CMA calculation based on Motorola response to Q1 of CMA RFI dated 26 May 2022. [✂]. Excludes revenue associated with interworking.
[798] See paragraphs 62-69.
[799] CMA calculation based on Motorola response to Q1 of CMA RFI dated 26 May 2022. [✂] Excludes revenue associated with interworking.

not volume-related (other than in terms of the network coverage decisions police forces make).[800] In particular, we note that Police Traffic Unit, the Amber Light Contracts and Catalogue/Growth sales relate to a relatively long list of additional services that are made available to different users, and we have not considered it necessary or proportionate to assess the detailed charging arrangements that apply to all of these additional services as part of our investigation.

67 In line with the above, we have concluded that the charge control will be applied in the following way:

(a) The charging arrangements for Police Traffic Unit, the Amber Light Contracts and Catalogue/Growth services will not be affected by the charge control remedy.

(b) An estimate of expected revenue from Police Traffic Unit, the Amber Light Contracts and Catalogue/Growth services will be calculated for each charge control year by applying the contractual inflation adjustments relevant to those services to Motorola's forecast of revenue from those services in 2022 (£[✂] million).[801] We note that Motorola has forecast that revenue from these services will remain unchanged through to 2026, other than as a result of indexation.[802] We will consider evidence on whether this estimate should be updated (on a forward-looking basis) at the 2026 charge control review.

(c) The estimate of expected revenue from Police Traffic Unit, the Amber Light Contracts and Catalogue/Growth services calculated under (b) will be deducted from the Allowed Revenue figure for the relevant year to determine the Allowed Core + Police Menu Revenue.

(d) A fixed percentage adjustment will be applied to charges for core and police menu services in order to align the revenue to be earned from those services with the Allowed Core + Police Menu Revenue calculated under (c).

(e) The precise level of Allowed Revenue (and therefore Allowed Core + Police Menu Revenue) to be applied each year will only be known ex post, as it will depend on indexation adjustments and the operation of the cost sharing mechanism. In line with our proposal in the PDR, we have decided that Airwave Solutions will be required to set charges on the basis of its best estimate of the level of allowed revenue that would apply to the relevant year, and for there to be a mechanism through which the financial effect of differences between the estimated allowed revenue used to set charges and the finalised allowed revenue

800 Motorola response to Q1 of CMA RFI dated 26 May 2022. [✂].
801 Motorola response to Q1 of CMA RFI dated 26 May 2022. [✂].
802 Motorola response to Q1 of CMA RFI dated 26 May 2022. [✂].

(after indexation and cost sharing adjustments have been made) can be adjusted for in an NPV neutral way.

(f) The Order implementing the remedies set out in this final report will specify detailed provisions to implement the steps outlined in (a) to (e).

68 With respect to Motorola's submission that there had not been any assessment of the way in which contracts with sharers had been negotiated, we note that – in line with the description in paragraph 67 – the charge control remedy will not change the charging arrangements for Police Traffic Unit, the Amber Light Contracts and Catalogue/Growth services. With respect to the Home Office and Motorola's concerns over the relative treatment of different users, while our view is that the charge control should not require adjustments to the charges for these services, in line with our comments in paragraph 72, we consider that – as long as the overall constraints imposed by the charge control are preserved – it should be open to the Home Office, users and Airwave Solutions to agree a different way in which the charge control could be applied so as to address those concerns.

The extent to which the charge control should be determinative of charging outcomes

Our provisional assessment in the PDR

69 In the PDR, we set out our provisional views that the charge control should be set as charge cap, such that Airwave Solutions has flexibility to set its charges at a lower level should it choose to do so. We said that our provisional assessment was that it would not be appropriate to view the provision of flexibility for Motorola and the Home Office to agree alternative arrangements to those set out in a charge control as contributing materially to addressing the identified AEC. However, we said that we had not identified any reason to restrict the flexibility of the parties to contract away from the charge control arrangements, if they identified a mutually beneficial alternative. We noted that as circumstances evolved, it was possible that the charge control arrangements could come to be viewed by both parties as including some undesirable (or unnecessary) requirements or constraints, and that flexibility to agree adjustments to the arrangements may be beneficial in such circumstances. In line with this, our provisional view was that the operation of the charge control arrangements should not prohibit this kind of flexibility, where all parties wished to move to alternative contractual arrangements.

Parties' submissions

Motorola's views

70 Motorola said that the typical reason for using price caps is that they give the regulated firms some flexibility about the structure of charges, but that the proposed charge cap was not only prescriptive in terms of the revenues that Airwave would be permitted to earn, but also in relation to how the structure of charges would be set.[803]

Home Office views

71 The Home Office did not comment on this matter in its response to the PDR.

Assessment

72 At its response hearing, Motorola asked whether the comments on flexibility in the PDR meant that nothing would prevent the parties from working out alternative arrangements.[804] We consider that it is desirable to allow some flexibility for the parties to refine aspects of the charge control arrangements where there is agreement on the scope for improvements. However, we note the purpose of this flexibility is not to allow for the charge control remedy to be circumvented or relaxed. In line with this, we consider that flexibility to agree modifications to aspects of the charge control arrangements should be allowed, but only to the extent that any such modification does not result in a material weakening of the constraints the charge control remedy puts on the overall level of Airwave Solutions' charges. We consider that this allows for desirable flexibility – for example, to vary the way in which the charge control is applied – while providing an appropriate safeguard against circumvention risks.

The duration of the charge control remedy

Our provisional assessment in the PDR

73 In the PDR, we proposed that a charge control should be put in place and take effect as quickly as was practicable, and our provisional view was that a charge control should take effect from the commencement date of our Order implementing the remedies identified in our final report, which we expected to be in the first half

[803] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 32.
[804] Motorola Response hearing with the CMA on 10 January 2023. [✂].

of 2023. We proposed that the charge control should terminate at the end of 2029, with a review in 2026.

Parties' submissions

Motorola submissions

74 Motorola said there was no justification for a 2029 termination date, and that with the current contract expected to end in 2026 (as a result of the Home Office having served a National Shutdown Notice), any concern about the terms on which Airwave Network services would be provided after that date (should that be required) should be addressed by competition for the market.[805] Motorola said that there was certainly no justification for providing for the option of having a continued regulatory arrangement governing the period after 2029.[806]

Home Office submissions

75 The Home Office said it was concerned that action (or inaction) by Motorola, for example in respect of services associated with interworking, might delay transition, and that while it accepted there should be a presumption that the charge control end in 2029, it requested 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.[807]

Assessment

76 Given the AEC we have found, and substantial customer detriment resulting from it, our view is that the charge control remedy should be put in place and take effect as quickly as is practical. In line with this, and with our provisional assessment in the PDR, we have decided that the charge control remedy should take effect from the commencement date of our Order implementing the remedies set out in this final report, which we expect to be in the middle of 2023.

77 Having considered Motorola's submissions on the (in its view, lack of) justification for a 2029 termination date for the charge control, and the Home Office's request that termination at the end of 2029 be treated as a rebuttable presumption based on the outcome of a 2029 review, our conclusion is that an end-date for the charge control of 31 December 2029 is appropriate. That is aligned with the time period in which we have identified an AEC as set out in sections 4 and 7.

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[805] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 38.
[806] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 38.
[807] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 1.14(d).

78 In line with our assessment in section 4, we consider – on the basis of the evidence that has been submitted to us – that the Airwave Network will be required until at least 2026 and will likely be required until the end of 2029 and possibly longer. We also consider it unlikely that – absent the charge control remedy – the supply of communications network services for public safety will be subject to competitive pricing arrangements before the end of 2029. Furthermore, in line with our assessments in section 8, our view is that there are no other potential remedies that would be expected to provide an effective and proportionate alternative response to the AEC we have found. At the same time, our view is that it would not be proportionate for a charge control to be introduced that extended beyond the end of 2029. As set out in section 8, we consider that, during the period when the charge control remedy is in force, 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. We are making a recommendation to that effect, which if implemented offers the possibility of addressing the source of Airwave Solution's / Motorola's market power.

79 Given the above points, we have decided that the duration of the charge control should be set such that it will terminate at the end of 2029. While it is possible that the Airwave Network may be required beyond that point in time, we consider our recommendation remedy, and the time available to act on that recommendation ahead of the end of 2029, provide an effective and proportionate response to that risk. Also, we note that the charge control would cease to have effect from the point at which the Airwave Network was shut down, and will be subject to a review in 2026 (in line with our comments in section 8, we consider the inclusion of the 2026 review within the charge control remedy to provide an important risk mitigation mechanism).

Charge control calibration

80 This section begins by considering our overall approach to charge control calibration, before setting out how charge control components have been assessed in order to calibrate the charge control remedy. In particular, we set out our views on:

(a) Opex allowances.

(b) Capex allowances.

(c) The opening Regulatory Asset Base.

(d) Final settlement arrangements at the end of the charge control.

(e) Depreciation provisions.

(f) The allowed return on capital.

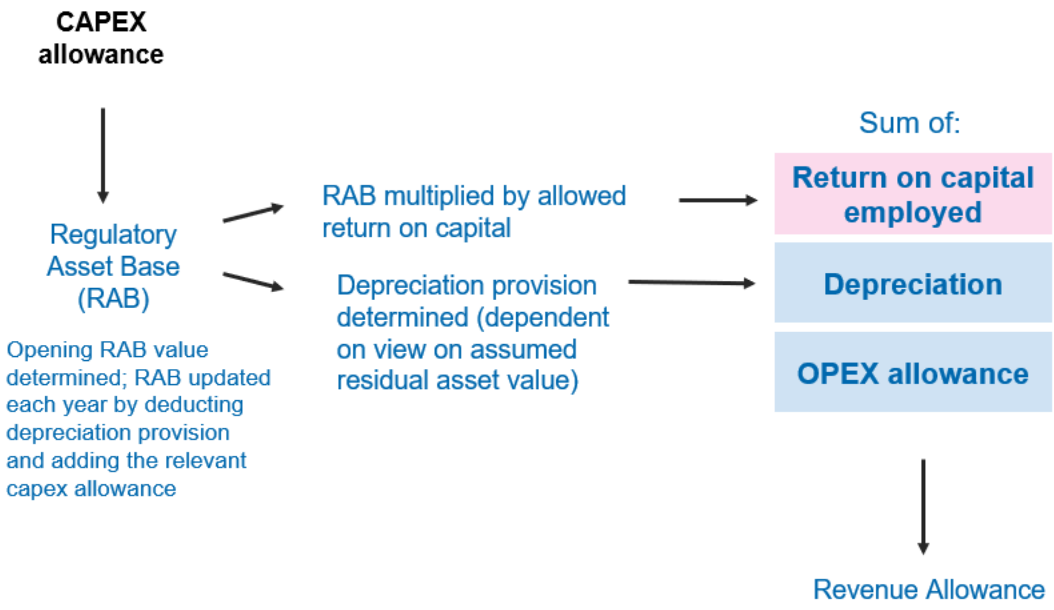
81 Finally, we set out the overall revenue allowances that will be applied under the charge control remedy.

Overall approach to charge control calibration

Our provisional assessment in the PDR

82 In the PDR, we set out our provisional view that seeking to determine allowed charges by reference to market evidence on the charges paid for similar services (using a benchmarking approach), would not provide a feasible or reliable basis for setting the proposed charge control, given the absence of appropriate comparators and the limited extent to which information relevant to such an assessment is available. We noted that this was consistent on the 'current thinking' we consulted on in our potential remedies working paper, and with our provisional view that the benchmarking arrangements within the existing Airwave contracts would not – including if modified – be likely to provide a reliable basis for effectively addressing an identified AEC. In line with this, we set out our provisional view that a charge control would need to be calibrated on the basis of an assessment of Airwave Solutions' costs associated with the provision of the relevant services, and of how those cost might evolve over time. Our provisional view was that appropriate revenue allowances for each year should be determined using the 'building blocks' approach that is widely used by economic regulators. We summarised this approach by reference to Figure K-2, which shows how the different components of the charge control input into the determination of revenue allowances.

Figure K-2: Overview of inputs into determining revenue allowances



Parties' submissions

Motorola's views

83 Motorola did not comment directly on our proposed overall approach to charge control, other than through broader comments related to the complexity of setting a charge control (which were considered in section 8) and a broader submission that it would be 'utterly inappropriate' to turn Airwave Network services into a regulated utility.[808] Following its response hearing in January 2023, Motorola submitted an alternative remedy proposal that involved Airwave Solutions providing a fixed percentage discount to the charges for Airwave Network services, where the size of that discount determined based on a comparison between the gross margins earned by Airwave Solutions and those earned by Motorola's other 'European Managed Services' businesses.[809]

Home Office views

84 The Home Office said that, overall, it agreed with the proposed approach to determining the revenue allowance baseline, and observed that it was based on the standard building block approach adopted by a number of regulators.[810]

[808] Motorola's response to the CMA's Provisional Decision Report, 21 November 2022, paragraph 5.7.
[809] Motorola's submission, Proportional resolution of a hypothetical AEC as to Airwave Profitability, 25 January 2023.
[810] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.80.

Assessment

85 In Section 4 and Appendix E, we provided a detailed assessment of the benchmarking provisions in the PFI Agreement, and the factors that undermined and/or limited the effectiveness of those provisions. We note that section 4 includes an excerpt from a Motorola submission which highlights the extent to which the 2014 Gartner study pointed out the methodological difficulties encountered in trying to benchmark Airwave Solutions' pricing. We observe that Motorola's 25 January 2023 remedy submission 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 (including the methodological challenges noted by Gartner which – as highlighted above – Motorola itself has pointed to during this investigation), and very limited information on how the figures it had identified as providing relevant comparators had been derived. Our view is that Motorola's submissions on gross margin comparisons do not provide a reliable basis for making assessments of the level at which the charge control should be set. In line with the PDR, our view is that allowed revenue allowances for each year should be determined using the 'building blocks' approach summarised in Figure K-3.

Opex allowances

Our provisional assessment in the PDR

86 In the PDR, we proposed that opex allowances should be determined by identifying:

(a) A 2021 opex 'base' figure.

(b) How 2023-2029 opex allowances should be set by reference to that base figure.

87 Our proposed approach to these two steps is considered in turn below.

The proposed 2021 opex base figure

88 Our starting point for provisionally determining opex allowances was to consider the most recent available evidence on Airwave Solutions' actual opex levels. Preliminary opex figures were available for 2021, and we said we would expect to consider as part of our final decision whether a further adjustment may be appropriate to reflect any differences between this preliminary data and the finalised 2021 figures. We said we would expect the existing contractual arrangements to have provided incentives for Airwave Solutions' to manage its opex efficiently, but noted that reported opex levels would have been affected both by the scope of services to which they relate, and by transfer charging

arrangements. Our provisional view was that we should make adjustments to Airwave Solutions' reported opex figure for 2021 to reflect these factors, and that – after having made these adjustments – charge control opex allowances should be set based on relevant opex in 2021 being £142 million.

89 Motorola had provided us with a breakdown of Airwave Solutions' expenditure for 2018, 2019 and 2020 consistent with the amounts included in Airwave Solutions' statutory accounts,[811] and preliminary figures for 2021.[812] Table K-2 shows the adjustments we proposed making to this expenditure data to in order to identify the levels of opex relevant to those services we had provisionally found should be covered by a charge control.

Table K.2: PDR opex estimates (including management charges), before and after adjustments, 2018-2021

				£million
	2018	*2019*	*2020*	*2021*
Based on Airwave Solutions' P&L	157	190	202	200
After removal of out of scope services	129	165	177	176
After transfer charging adjustments	129	145	148	142

Source: CMA analysis

90 The first row shows the sum of Airwave Solutions' 'cost of sales' and 'operating expenses' (including management charges), less depreciation (which we make a separate provision for in the charge control). The second row removes our proposed estimate of opex associated with the provision of services that would be outside of the scope of the charge control: Pronto; CCCRS; and Ambulance Bundle 2.[813] We invited views on whether, and if so what, other opex adjustments may be appropriate to align with the scope of the proposed charge control (including to reflect the exclusion of the provision of radio terminals (except where part of a managed service) from the scope of the proposed charge control).

91 We noted in our profitability working paper that while Motorola had provided an estimate of its cost of sales associated with Ambulance Bundle 2 services, it had not identified relevant administrative expenses.[814] In our profitability working paper we had estimated administrative expenses associated with Ambulance Bundle 2 services as equal to the proportion of Airwave Solutions' total turnover accounted for by Ambulance Bundle 2 services multiplied by total Airwave Solutions' administrative expenses. Motorola had told us that Ambulance Bundle 2 was mostly outsourced and therefore administrative costs associated with the provision

[811] Motorola response to CMA RFI dated 16 December 2021, question 9. [✂]
[812] Motorola response to CMA RFI dated 16 December 2021, question 20. [✂]
[813] This aligns with the approach we have taken in our profitability analysis in section 6, other than that (for the reasons set out in section 6) we did not exclude Ambulance Bundle 2 services from that analysis.
[814] Profitability modelling and results working paper, 6 May 2022.

of this service were minimal, and that taking out administrative costs based on an attribution of revenue significantly overstated the relevant cost.[815] Motorola had not, however, suggested an alternative basis on which to allocate administrative costs, or provided an estimate. In the PDR we proposed adopting a less stringent approach to estimating Ambulance Bundle 2 administrative expenses (than that used in our profitability working paper), by deducting management charges (which are considered further below) from total Airwave Solutions' administrative expenses, before attributing an amount to Ambulance Bundle 2 based on the proportion of turnover it accounts for. This approach was used as part of calculating the figures in the second row of Table K-2.

92 The third row in Table K-2 shows the proposed adjustment to the costs associated with maintenance services provided to Airwave Solutions by Motorola, and the level of 'management charges' attributed to Airwave Solutions. Our provisional view was that it was appropriate to apply our transfer charging analysis when calibrating the proposed charge control. We noted, however, that the level of management charges identified in Airwave Solutions' preliminary profit and loss account for 2021 was around £[✂] million higher than the level identified for 2020, after the transfer charging adjustments we had set out in Appendix E of the PDR had been made. We said that the limited narrative response we received in response to a question concerning this increase did not provide an adequate basis for assessing it.[816] We proposed, in the absence of further substantiation, to remove this increase from the 2021 opex figure (by using the 2020 level of management charges).

2023-2029 opex allowances

93 In the PDR, we proposed that opex allowances should be provided for in the charge control in line with the figures shown in Table K-2, based on the following provisional assessments:

(a) Opex allowances under the charge control should be linked to movements in CPIH, which is now the lead measure of the Office for National Statistics (ONS) of consumer price inflation.[817]

(b) Scope for ongoing efficiency improvements of 1% per year should be assumed when setting allowances to reflect the potential for productivity improvements to be achieved over time.

[815] Motorola's response to the CMA's working paper on Profitability and the Cost of Capital, 20 May 2022, paragraph 43.
[816] Motorola response to CMA RFI dated 12 April 2022, Question 14. [✂]
[817] Office for National Statistics (2018), Measuring changing prices and costs for consumers and households

(c) No further adjustments should be made when determining opex allowances: in particular, adjustments to reflect energy price movements (over and above what was captured by CPIH) should not be made, and no allowances should be included to reflect potential decommissioning (and associated redundancy) costs.

Table K.3: Opex allowances proposed in the PDR (2021 CPIH prices)

£million, 2021 CPIH prices

	2023	*2024*	*2025*	*2026*	*2027*	*2028*	*2029*
Proposed opex allowance	139	138	137	135	134	133	131

Source: CMA analysis

Parties' submissions

Motorola's views

94 Motorola said that the assumption of opex pegged at 2021 levels, indexed at CPIH and subject to presumed efficiency improvements was arbitrary and unsupported and that it considered that any forward-looking remedy should start from the actual level of costs.[818] In its PDR response, Motorola did not make any specific submissions on the adjustments proposed in the PDR in order to calculate an appropriate 2021 base opex figure, but in its post-response hearing submission Motorola pointed to us as being aware that it strongly rejected the proposed adjustments related to transfer charging and the attribution of administrative overheads to Ambulance Bundle 2.[819]

95 Motorola said that the replacement of the lead inflation indicator by ONS (ie the replacement of RPI with CPIH) provided no justification for rewriting a contractual term.[820] Motorola pointed to differences between the weightings in the CPIH basket and the composition of its cost base, and said its analysis indicated that the impact of rising energy prices on Airwave would be larger than captured by CPIH.[821] Motorola said that [✂]% of its input costs arose from supplier contracts that were indexed to RPI (£[✂] million in 2022), and so would continue to increase with RPI regardless of what the CMA considered to be the more appropriate measure of inflation.[822] Motorola said that a further [✂]% of its variable costs were based on the outcome of collective bargaining by unions, and that in the last three

[818] Motorola, 'Sundry Points Arising from the 10 January 2023 Hearing', 3 February 2023., paragraph 6(f)]
[819] Motorola, 'Sundry Points Arising from the 10 January 2023 Hearing', 3 February 2023., 3 Feb 2023, paragraph 6(f)]
[820] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 40.
[821] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 41.
[822] Motorola's response to CMA RFI dated 31 January 2023, Question 3. [✂]

years the increase in union agreed salaries had been in line with the published average RPI for the prior year.[823]

96 Motorola said that the opex assessment in the PDR completely ignored that opex forecasts are subject to uncertainty and pointed [✂].[824] Motorola said that [✂] BT [✂], it was proposing to [✂].[825]

Home Office views

97 The Home Office submitted that the 2021 base opex figure used in the PDR was quite generous, noting that while it was below the equivalent figures for 2019 and 2020, it was above the equivalent figure for 2018.[826] The Home Office said the opex figures included the cost of providing the current interworking solution, but this would no longer be needed, and so these costs should not be included.[827] The Home Office said the 1%/year efficiency assumption was conservative (ie generous to Airwave Solutions).[828] The Home Office said that Ofwat and Ofgem have used slightly higher figures recently (1.1% and 1.25%) and Ofcom's cost model for copper set opex efficiency of between 3% and 5% per year, so the assumption in the PDR was more similar to assumptions used in water and energy than it was to those used in the telecoms sector.[829]

Assessment

98 With respect to Motorola's submission that our overall approach to determining appropriate opex allowances was 'arbitrary and unsupported', we observe that:

(a) The approach of starting with the most recently available reported opex figures and assessing what adjustments might be appropriate to reflect factors such as scope, inflation and efficiency considerations has been widely used in the determination of charge controls.[830]

(b) As we noted in the PDR, the opex forecasts that Motorola submitted to us during this investigation were derived by using Airwave Solutions' provisional opex figures for 2021 and applying inflation assumptions.[831]

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[823] Motorola's response to CMA RFI dated 31 January 2023, Question 3. [✂]
[824] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 33.
[825] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 34.
[826] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.85.
[827] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.87.
[828] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.86..
[829] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.86.
[830] For example, CMA (2020) NATS (En Route) Plc / CAA Regulatory Appeal: Final report.
[831] See Appendix K, paragraph 117 of the PDR.

99 We consider the approach used in the PDR to assess appropriate opex levels to be a reasonable one, and we have used it (with the modifications set out below) to determine the opex allowances that will be provided for by the charge control remedy.

The 2021 opex base figure

100 We have concluded that we should use the approach proposed in the PDR to determine the 2021 opex base figure in setting charge control allowances, subject to the following two adjustments:

(a) Having further considered how account should be taken of administrative expenses associated with Ambulance Bundle 2 services, we have concluded that a more conservative (ie beneficial to Airwave Solutions) approach should be adopted. In particular, while we consider the approach proposed in the PDR (of deriving a level of administrative expenses to attribute to Ambulance Bundle 2 services based on the proportion of Airwave Solutions' total turnover it has accounted for) a reasonable one in principle, there is a risk that its use could result in an unduly low opex allowance being provided for. Given the limited evidence available on this matter, we have concluded that no adjustment should be made to Airwave Solutions' reported 2021 opex figure to reflect administrative expenses associated with Ambulance Bundle 2 services. We note that – other things being equal – under this approach the 2021 base opex figure will tend to overstate actual opex requirements in that year that were relevant to the services covered by the charge control (as even, on Motorola's assessment,[832] the scale of relevant administrative costs was 'minimal' rather than zero). We have concluded that the adoption of this more conservative (ie beneficial to Airwave Solutions) approach is appropriate given the balance of relevant risks.

(b) Having considered again Motorola's response to our request for a breakdown of Airwave Solutions' management charges from 2021-26,[833] we note Motorola's comment that the level of the parent company guarantee fee is subject to foreign exchange volatility, and that a revised foreign exchange assessment could have underpinned the increase in the level of management charges identified in Airwave Solutions' profit and loss account for 2021. If the increase in management charges is treated as having been driven by a revised view of foreign exchange costs then removing all of the 2021 increase (as proposed in the PDR) may mean that foreign exchange costs associated with the allowance for those management charges that

[832] Motorola's response to the CMA's working paper on Profitability and the Cost of Capital, 20 May 2022, paragraph 43.
[833] Motorola response to CMA RFI dated 12 April 2022, Question 14. [✂]

remained after our transfer charging adjustments (based on the assessments in Appendix H) would not be taken into account sufficiently. To reflect this possibility, we have concluded that the percentage reduction in management charges identified in Appendix H as appropriate for 2020, should be applied to the 2021 level of management charges (such that the remaining allowance for management charges is assumed to have increased by the same percentage amount in 2021 as the overall level of management charges shown in Airwave Solutions' accounts).

101 The effect of these adjustments is shown in Table K-4. Our final assessment is that a base opex figure for 2021 of £146 million should be used to determine opex allowances. This is around £4 million higher than the figure proposed in the PDR.

Table K.4: Revised opex estimates (including management charges), before and after adjustments, 2018-2021

				£million
	2018	*2019*	*2020*	*2021*
Based on Airwave Solutions' P&L	157	190	202	200
After removal of out of scope services	133	168	181	180
After transfer charging adjustments	133	148	151	146

Source: CMA analysis

2023-2029 opex allowances

Indexation provisions

102 We considered Motorola's submissions on the likely representativeness of the CPIH basket of goods and services given the circumstances faced by Airwave Solutions to have some merit. Having considered what alternative indices might be used, our view is that CPI is likely to better reflect Airwave' Solutions' cost base than CPIH (which, notably, includes owner-occupied housing costs).

103 In our view, there are well-founded reasons for seeking to move away from the use of RPI as a measure of inflation. As we noted in the PDR, the ONS considers it a very poor measure of general inflation and discourages its use.[834] However, we consider Motorola's evidence on the extent to which its input costs that arise from supplier contracts which include RPI indexation to be a relevant factor when assessing the appropriateness of different indexation provisions. In particular, while RPI is no longer recognised as a national statistic, the transition away from its use has been gradual, such that it can continue to have a material bearing on input costs. Motorola identified [✂]% of Airwave Solutions' input costs as linked to RPI (see paragraph 95), and it told us that this did not include any contracts

[834] Office for National Statistics (2018), Shortcomings of the Retail Prices Index as a measure of inflation

between Airwave Solutions and Motorola.[835] Given the transfer charging adjustments we have made when identifying an appropriate base level of opex for 2021, it may be that in practice that RPI is relevant to a somewhat higher percentage of opex allowed for in the charge control. At the same time, while Motorola pointed to [✂]% of input costs as currently being linked to RPI, the broader transition away from using RPI (given its recognised deficiencies) suggests that there may be opportunities for Airwave Solutions' input costs to become less reliant on it over time.

104 Taking the above factors into account, we have decided to link the charge control opex allowances 50% to movements in RPI, and 50% to movements in CPI and consider that this provides for a balanced approach.

The ongoing efficiency assumption

105 We have decided that a 1% per year opex efficiency assumption should be applied, in line with the proposal in the PDR. As was noted in the PDR, the application of an ongoing efficiency assumption to reflect the potential for productivity improvements to be achieved over time is widely used in the setting of charge controls, a figure of around 1% per year has been used by a number of regulators over time, including by Ofgem and Ofwat in recent prices determinations.[836] We note higher ongoing efficiency levels that have been assumed by Ofcom (as referred to by the Home Office) and consider this, together with the extent of the planned upgrades to the Airwave Network (which may be such as to provide opportunities for material opex efficiency savings) to support the view that allowing for an ongoing efficiency improvement of 1% per year may be a conservative assumption.

Other opex adjustments

106 In response to an RFI request, Motorola provided us with extensive documentary evidence related to the [✂].[837] [✂].[838] We have included an upward adjustment to the opex allowances from 2024 onwards that is broadly equivalent to this identified increase (and increased the capex allowance to include the identified up-front cost). We consider this to provide a conservative way of reflecting this additional cost pressure, while recognising that it is for Airwave Solutions to determine how best to manage this and other opex risks. We consider that this, together with the scope for opex allowances to be assessed on a forward-looking basis at the 2026

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[835] Motorola's response to CMA RFI dated 31 January 2023, Question 3. [✂]
[836] CMA (2021), Energy Licence Modification Appeals 2021 Final Determination Volume 2B, paragraph 7.799(d).
[837] Motorola's response to CMA RFI dated 16 January 2023, Annex 1A, question 8. [✂]
[838] Motorola's response to CMA RFI dated 16 January 2023, Annex 1A, question 8. [✂]

review, in the light of Airwave Solutions' reported opex ahead of that time, to provide an appropriate way of taking opex risks into account.

107 We have decided that an allowance for potential decommissioning (and associated redundancy) costs should not be included in the opex provisions in the charge control. Our assessment of submissions on this matter is set out in paragraph 133 in relation to charge control final settlement arrangements.

Conclusion on opex allowances

108 The opex allowances to be provided for in the charge control remedy are set out in Table K-5.

Table K.5: Charge control opex allowances (2021 prices, indexation: 50% RPI; 50% CPI)

							£million,
	2023	*2024*	*2025*	*2026*	*2027*	*2028*	*2029*
Opex allowance	143	146	145	143	142	140	139

Source: CMA analysis

Capex allowances

109 We set out our assessment of Airwave Solutions' capex forecasts in the context of capex levels included in our profitability analysis in Appendix G. Table K-6 shows the capex allowances that will be provided for within the charge control in line with that assessment. This subsection sets our assessment in relation to capex indexation, and identifies the levels of external equipment capex that will be used in the cost sharing arrangements that were set out in paragraph K-6.

Table K.6: Charge control capex allowances

								£million
	2023	*2024*	*2025*	*2026*	*2027*	*2028*	*2029*	*Total: 2023-29*
Motorola's April 2022/May 2021 forecast	80	85	74	40	15	12	13	319
Megastream Adjustment	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Capex allowance	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	263

Source: CMA analysis

Capex allowances and indexation

Our provisional assessment in the PDR

110 In the PDR, we proposed that no indexation provisions should be applied to capex allowances. We said we had understood that Motorola's capex forecasts – as with its opex forecasts – represented its assessment of relevant outturn costs, and therefore already took account of potential pricing pressures over time.

Parties' submissions

Motorola's views

111 Motorola said that given the recent dramatic changes to market conditions, it was not appropriate to apply no indexation provisions to capex, in particular as the risk provisions had been removed completely.[839] Motorola said it had seen increases in the internal price of equipment which would translate to a higher 'gross price', and that labour costs would also rise annually.[840] Motorola said that even with long-term third party contracts, there would be indexation clauses or the possibility of vendors coming back to renegotiate prices due to rising prices.[841]

Home Office views

112 The Home Office said it assumed that the capex forecast provided by Motorola was already in nominal terms.[842]

Assessment

113 As noted in the PDR, we have understood Motorola's opex and capex forecasts to represent its assessment of relevant outturn costs. For opex, the application of inflation assumptions was directly observable in the forecasts Motorola provided, and this allowed those assumptions to be stripped out straightforwardly when consideration was being given to alternative approaches. However, for capex Motorola's inflation assumptions were not made explicit. Given this, and in line with our provisional assessment in the PDR, our view is that there would be a significant risk that the use of a capex indexation approach would result in double counting (because indexation would be overlaid on figures that already reflected views on potential inflation).

114 We note that Motorola's comments on recent market conditions made reference to a context in which we had provisionally decided that Motorola's capex risk budget should not be included in its capex allowance. In line with our assessment in Appendix G, the capex allowances shown in Table K-6 include a capex risk budget at the level Motorola determined appropriate in its May 2021 and April 2022 capex forecasts. We consider this – among other things – to provide some protection in relation to capex input price pressures. With respect to Motorola's comment on long-term third-party contracts including indexation clauses or the possibility of vendors coming back to renegotiate due to rising prices, we note that the charge

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839 Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 42.
840 Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 42.
841 Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 42.
842 Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.98.

control review in 2026 provides an opportunity for evidence on relevant input price pressures to be considered and, if appropriate, reflected in subsequent charge control allowances.

115 Given the factors set out above, our conclusion is that the charge control should not include capex indexation provisions.

Third-party equipment capex

116 Table K-7 below sets out the assumed levels of externally sourced equipment capex that will be used when applying the cost sharing mechanism referred to in paragraph 56. We did not receive submissions on the level of externally sourced equipment capex we proposed in the PDR, and the PDR figures will be used for the 2027-29 period (over which the overall capex allowance to be included in the charge control is the same at that proposed in the PDR). For 2023-26, the level of externally sourced equipment capex will be set in line with that identified by Motorola in the April 2022 forecast.[843]

Table K.7: Breakdown of capex allowances between third-party equipment capex and other (for use in the cost sharing mechanism)

	2023	*2024*	*2025*	*2026*	*2027*	*2028*	*2029*	*£million Total: 2023-29*
Capex allowance	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	263
Allowance for third-party equipment capex	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Other capex	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis

Identifying an appropriate opening Regulatory Asset Base

117 In line with our assessment at paragraph 85 (and the approach summarised in Figure K-2), the charge control remedy will provide for depreciation of, and a return on the value of the Regulatory Asset Base (RAB) each year. The opening value of the RAB can be understood as the value associated with past Airwave Network investments – at the point in time when the charge control takes effect – that Airwave Solutions' should be able to expect to recover from customers through future charges.

[843] Motorola's response to the RFI dated 8 April 2022, question 5 [✂].

Our provisional assessment in the PDR

118 In the PDR, we proposed that the RAB should be set equal to £164 million, which comprised:

(a) £[✂] million in relation to assets provided for by the PFI Agreement. In line with the provisional assessment set out in Appendix I (and used in our profitability analysis in Appendix G) of the PDR, our provisional view was that assets that were provided for by the PFI Agreement should be valued at their Net Realisable Value, which Motorola had estimated to be £[✂] million. We considered this to be consistent with treating the recovery of capital expenditure associated with the provision of the network and services to the end of 2019 as having been fully accounted for in the bid for the original contract, other than in relation to the residual value of assets in an alternative use (which is what the £[✂] million figure was an estimate of).

(b) £146 million in relation to assets provided to allow for the extended use of the Airwave Network (ie beyond the end of 2019). We noted that some capex incurred in 2018 and 2019 would have related to the extension of the use of the Airwave Network beyond 2020, and that Airwave Solutions had incurred additional capex in 2020-22. Our provisional view was that the opening RAB should include an amount that reflects relevant levels of capex incurred from 2018 to 2022 inclusive, after making an appropriate adjustment for depreciation. We proposed that:

(I) As 2018 capex was undertaken in a context where application of the prevailing depreciation policy would have implied a net book value of zero on 1 January 2023, the opening RAB should not include any allowance for 2018 capex.

(II) For 2019, capex relevant to the period beyond the original PFI Agreement term should be treated as reported capex less £[✂] million, that being the level of capex that Motorola has identified would be required in 2026 on the assumption of Airwave Network shutdown at the end of that year.

(III) Subject to (ii), for capex in 2019-22, we should assume a depreciation profile consistent with that introduced by Airwave Solutions in 2019 when determining the opening level of the RAB.

(IV) The opening RAB value should be updated to reflect the finalised reported level of capex for 2022.

Parties' submissions

Motorola's views

119 Motorola said that the claim that the agreed PFI charges had allowed Airwave Solutions to recover all of its capex (net of £[✂] million) was entirely unsupported and obviously wrong, given that much more was invested in the network than had been envisaged in 2000.[844] Motorola said there was no justification for using reported capex less £[✂] million as relevant capex for 2019, by reference to the level of capex required in 2026 on the assumption of Airwave Network shutdown in that year.[845] Motorola said that the capex actually incurred in 2019 clearly did not include decommissioning costs.[846]

Home Office views

120 The Home Office said that the inclusion in the opening RAB of £[✂] million of undepreciated capex from 2019-22 would effectively charge the taxpayer twice for capex spent in this period.[847] The Home Office said that Airwave Solutions had already earned excessive profits between 2020 and 2022 which were large enough to write off any capex in the year it was incurred.[848]

Assessment

Assets provided for by the PFI Agreement

121 Section 6 of the report (and Appendix I) provides our assessment of asset valuation issues relevant to our profitability analysis. With respect to Motorola's comment that 'the claim that the agreed charges [under the PFI Agreement] have allowed Airwave to recover all of its capex (net of…£[✂]m) is entirely unsupported and obviously wrong', we make the following observations:

(a) The approach proposed in the PDR did not involve, or rely on, the claim that the PFI Agreement charges had allowed Motorola to recover all of its relevant past capex (aside from the £[✂] million).[849] Rather, the PDR approach

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[844] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, pages 42–43.
[845] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 43.
[846] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 43.
[847] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraphs 7.9–7.92.
[848] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.82(d).
[849] However, as set out in section 6, Airwave Solutions actual returns over the PFI period were around 11%, which is slightly above the cost of capital for that period, albeit below the [✂]% [15% to 20%] hurdle rate included in the PFI Model. We consider that this supports the view that Airwave Solutions did, in fact, make a reasonable return on its investments during the PFI period, ie that it did not make an economic loss which might have suggested that it had failed to recover the investments which it made.

treated the PFI Agreement as having provided Airwave Solutions with a reasonable opportunity to recover all its past relevant capex (and to have earned a normal return).

(b) When assessing the appropriate opening RAB for a charge control starting in 2023, we are seeking to identify the value associated with past Airwave Network investments that Airwave Solutions should be given a reasonable opportunity to recover from customers through future charges. The PDR approach assumed that in 2023, there remained no value associated with assets provided for by the PFI Agreement – apart from the identified residual value of £[✂] million – that Airwave Solutions should be able to expect to recover through subsequent charges.

(c) This does not imply that the Airwave Network assets are viewed as having zero (or £[✂] million) value when considered in terms of the mission critical services they enable the continued provision of. Rather, it assumes that Airwave Solutions should not be treated as able to expect to recover more than £[✂] million in relation to those assets, given the basis upon which they were developed.

122 With respect to (c) above, we also note that the PFI Agreement included provisions which determined the amounts that would be payable to Airwave Solutions in the event of early termination.[850] Technological developments might have been such as to mean that the ongoing ability to use the Airwave Network had little value to the Home Office and users, such that early termination was considered justified. Under such circumstances, that would not have implied that no (or very limited) further payment would need to be made to Airwave Solutions: that is, the amount that Airwave Solutions could have expected to be able to recover would not have been determined by the ongoing use value of the Airwave Network. Rather, the PFI Agreement provisions anticipate that Airwave Solutions could expect to recover an amount consistent with the remaining duration over which it had been assumed that its relevant investments could be recouped. These arrangements provided for a distinction between the value of the Airwave Network in terms of its ongoing use, and the amounts that Airwave Solutions could expect to be able to recover, up to the end of 2019. Our view is that this distinction is also relevant to the determination of an appropriate opening RAB for the charge control.

[850] PFI Agreement, clause 44.

123 In line with the above points, we have decided that the opening RAB for the charge control should include £[✂] million in relation to assets provided for by the PFI Agreement.[851]

Capex related to extending the life of the Airwave Network

The treatment of 2019 capex in the opening RAB

124 With respect to Motorola's comment that the capex actually incurred in 2019 clearly did not include decommissioning costs, we note that the proposed deduction of £9 million when estimating relevant 2019 capex was not based on the assumption that this amount related to decommissioning. Rather, it was based on the assumption that some level of maintenance capex would have been expected in 2019 irrespective of whether the life of the network was to be extended beyond that point. The PDR proposal, therefore, was based on the view that it was appropriate to try to estimate the extent to which 2019 capex should be regarded as having been additional to otherwise expected maintenance capex.

125 However, having considered this matter further, our view is that it is more appropriate to treat all 2019 capex as relevant to the determination of the value of the opening asset base. We note that even if some maintenance expenditure would have been expected absent an extension of network life beyond the end of 2019, the fact of that extension increased the period over which that maintenance capex might provide value.

126 We note that, given this approach, our overall approach to determining the opening value of the RAB for the charge control remedy can be viewed as consistent with Airwave Solutions' own depreciation policies, in that:

(a) In line with Airwave Solutions' depreciation policy ahead of 2019, all capex ahead of that point in time is assumed to have been fully depreciated by the end of 2022, such that the only amount to be included in the opening RAB in relation to these investments is a residual value (which has been included at £[✂] million).

(b) For capex from 2019 onwards, the opening RAB has been determined based on assuming a depreciation profile through to the end of 2029, in line with the new depreciation policy that was introduced in 2019.

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[851] We note that in our profitability assessment, we have increased the opening asset value for the Airwave Network as of the beginning of 2020 to £80 million to reflect investments made between 2016 and 2019, which are likely to have been made with a view to extending the life of the network beyond the end of 2019. However, as set out above, those investments made prior to 2019 were depreciated over the period to 2022 and therefore do not affect the opening asset value for the purposes of the charge control remedy.

The Home Office's submission on 'paying twice'

127 The Home Office's submission relates to concerns over the level of charges that will have applied ahead of the introduction of the charge control remedy. We note that market investigations have a forward-looking focus, and are not concerned with providing a means to address retrospectively detrimental effects that may be associated with identified competition problems. Our view is that, using Airwave Solutions' own depreciation policy to identify the contribution that charges in previous years should be viewed as having made to the recovery of past investments, is an appropriate approach in this context.

Conclusion on the opening RAB level

128 In line with the above, the opening RAB for the charge control remedy will be £[✂] million.[852]

Final settlement arrangements at the end of the charge control

Our provisional assessment in the PDR

129 Our provisional view was that the charge control should include final settlement arrangements which provide for Airwave Solutions to recover the net value of its RAB at the time of the shutdown of the Airwave Network. We said that, in practice, this would mean that if the Airwave Network were to be shut down before the end of 2029, then Airwave Solutions should be allowed to recover the following amount through a final set of relevant charges:

- The net value of the RAB at the Airwave Network shut down date; less,
- The Net Realisable Value of Airwave Network assets at the Airwave Network shut down date. Our provisional view was that an independent engineering evaluation of the residual value of assets should be required during the year ahead of network shutdown.

130 We said that this would allow Airwave Solutions to recover the net value of its RAB whenever the Airwave Network was shut down, while recognising that the residual value of Airwave Network assets should be viewed as contributing to that recovery, and, indeed, could mean that the final set of charges are credits paid to the Home Office and users.

[852] That is, £[✂] million plus £[✂] million.

131 Our provisional view was that the proposed charge control should not provide an allowance for decommissioning (or associated redundancy) costs other than to the extent that Motorola could demonstrate that there were incremental decommissioning (or associated redundancy) costs related to the extension of the period over which the Airwave Network is operational beyond the end of 2019. In presenting this proposed approach, we noted the Home Office's submission that as decommissioning was expected to be required at the end of the original PFI Agreement, decommissioning costs should be treated as having already been paid for unless Motorola was to provide evidence showing that the estimate had increased because of the extension of the agreement.

Parties' submissions

Motorola's views

132 Motorola did not comment on the proposed final settlement arrangements, other than that it submitted that this was not something which had been included in the agreement since 2016, such that Airwave Solutions would not have been paid anything extra if the service were terminated earlier than it had expected.[853] Motorola submitted that treating decommissioning (and redundancy costs) as paid for in the PFI period was inconsistent with the view (which Motorola pointed to as underpinning the proposed approach to asset valuation) that the Airwave Network assets would have transferred to the Home Office (or an alternative party), with decommissioning costs then incurred in a later period.[854]

Home Office views

133 The Home Office did not comment on the proposed final settlement arrangements. The Home Office said it welcomed the treatment of Airwave Network decommissioning, and associated redundancy costs, as paid for in the initial PFI period.[855]

Assessment

134 As decommissioning (and associated redundancy) costs are future costs that Airwave Solutions would be expected to have to incur on the shutdown of the Airwave Network, we consider that a provision for these costs should be allowed for through the charge control unless there was a robust basis not to do so. Our

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[853] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 43.
[854] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, pages 9–11.
[855] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 3.9.

provisional view in the PDR was that the expectation of decommissioning at the end of 2019 provided a context within which one would expect any further funding of decommissioning costs to be limited to incremental costs associated with the extension of the life of the Airwave Network. However, having considered Motorola's submissions on this matter, and as set out in Appendix G, our view is that such an approach would not be appropriate. In line with this, the charge control remedy will provide a basis for funding decommissioning and associated redundancy costs through the final settlement arrangements, in the manner set out below.

135 We have decided that the charge control remedy should include final settlement arrangements, such that Airwave Solutions would apply a set of relevant final charges to recover/refund the following amount:

(a) The net value of the RAB at the final settlement date; less,

(b) The Net Realisable Value of the Airwave Network assets at the final settlement date as determined by an independent engineering assessment; plus,

(c) An estimate of an efficient level of required decommissioning (and associated redundancy) costs as determined by an independent engineering assessment; plus,

(d) The costs of procuring the independent engineering assessments referred to in (b) and (c).

136 We note that the final settlement arrangements proposed in the PDR were presented in a form that assumed the Airwave Network would be shutdown ahead, or at the end-point of the charge control. Given the possibility that this will not be the case, we have decided that the final settlement arrangements should be applied in the more generic form set out above. As was noted in section 8, these arrangements mitigate risks associated the recovery of relevant investments in a context where there is uncertainty over how long the Airwave Network may be needed for. In doing this – as was noted in the PDR – the arrangements also lessen the risk of undesirable delay incentives arising, as the recovery capex allowances would not be undermined by the shutdown of the Airwave Network before the end of 2029. We note also that the inclusion of final settlement arrangements – which take explicit account of the value of the assets at the end of the charge control – should provide a clearer valuation context within which asset transfer provisions could potentially be applied, if – notwithstanding the range of issues highlighted in sections 4 and 8 – they were to be used. The Order implementing the remedies set out in this final report will include further detail on how the independent engineering assessments referred to in (b) and (c) above should be provided for and funded.

Allowing for depreciation

Our provisional assessment in the PDR

137 In the PDR, we proposed that, an annual depreciation provision of £[✂] million should be included in relation to the opening RAB (subject to updating to reflect the finalised reported level of capex for 2022), based on the following provisional views:

(a) the residual value of the assets at the end of 2029 should also be assumed to be £[✂] million (with the value of the assets then to be assessed through the final settlement arrangements), such that no depreciation provision should be included in relation to this amount.

(b) The deprecation provision in relation to capex undertaken from 2019-22 should be determined in a manner consistent with (ie assuming the same depreciation profiles as) the approach by which the relevant opening RAB values were determined.

138 In relation to new capex, we proposed that a depreciation allowance of £[✂] million per year should included, given our provisional view that the depreciation provision should be determined by evenly spreading the recovery of the overall amount of capex allowed for under the charge control between 2023 and 2029.

Parties' submissions

Motorola's views

139 Motorola did not comment on the specific depreciation proposals included in the PDR in its response to the PDR, but submitted that the timing of the Airwave Network shutdown date was not in its control and that it was 'nonsensical' to refer to it having incentives to prolong the life of the network.[856]

Home Office views

140 The Home Office said that overall, it agreed with the proposal to evenly spread the recovery of the total amount of capex allowed for recovery under the charge control between 2023 and 2029.[857]

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[856] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 43.
[857] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 7.97.

Assessment

141 We have decided that the charge control remedy should include depreciation provisions in line with the approaches proposed in the PDR. Given that, the allowances for depreciation will be £[✂] million per year in relation to the opening RAB, and £[✂] million per year in relation new capex, subject to the RAB indexation arrangements described in paragraphs 144 to 145. These allowances are higher than the levels proposed in the PDR as a result of using a higher opening RAB value and higher capex allowances.

Allowed return on capital

Our provisional assessment in the PDR

142 Our provisional view was that the allowed return on capital in the proposed charge control should be set at 2.9% (in CPIH-deflated terms) which is equal to this mid-point of our range of pre-tax WACC estimates, based on the assumption that Airwave Solutions is 100% equity financed. In order to provide for a real return consistent with this over the course of the charge control, we proposed that the RAB should be indexed to movements in CPIH from 2023 onwards.[858] We proposed that an additional £[✂] million should be added to the opening RAB, and deducted from the closing RAB, in order to reflect financing costs associated with working capital, noting that this was consistent with the closing working capital provision used in our profitability modelling.[859]

Parties' submissions

143 Submissions related to the level of allowed return are considered in the Appendix J, which provides our assessment of the cost of capital included in our profitability analysis and in the charge control remedy. This subsection considers other submissions that were made relating to the allowed return on capital in the charge control.

Motorola's views

144 Motorola said it was not clear how the allowed return on capital figures referred to in the PDR had been derived (noting that they did not appear in Appendix J or elsewhere in the document).[860]

[858] We note that this approach of applying a deflated WACC to an indexed asset value is commonly used as a means of providing for a return on capital in charge controls.
[859] Based on the working capital figures set out in Appendix G of the PDR.
[860] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 43.

Home Office views

145 The Home Office said – based on some consideration of Airwave Solutions' accounts – that the amount of working capital assumed in the PDR appeared to be above the required level.[861] The Home Office – when commenting on the allowed revenue model that underpinned the PDR proposals – noted that the overall allowance for a return on capital in the PDR had been estimated by multiplying an average of the opening and closing RAB by the allowed return on capital. The Home Office requested that we consider whether using an NPV neutral RAB – as is used by Ofgem – would be more appropriate.[862]

Assessment

146 In line with our main cost of capital assessment in Appendix J, the allowed return on capital to be used in the charge control will be determined based in the following way:

(a) Apply a CPI-real cost of capital and inflate the asset base according to actual (CPI) inflation in each year. Using the figures in Table J-6, this gives a real pre-tax WACC range of 2.9% to 6.1%;

(b) Use a six-month average of Index Linked Gilt yields to estimate the relevant risk-free rate for the charge control, using the latest data available at the time that our Order implementing the remedies set out in this final report is put in place. This is likely to give a risk-free rate that is slightly different from the figures set out in Table J-6 above, depending on market movements between now and then;

(c) Apply this risk-free rate for the period from mid-2023 to the review in 2026 and then update the estimate using the latest data available at that time. We note that this will ensure the risk-free rate remains relevant throughout the charge control period.

(d) Use a 25% tax rate for the period from mid-2023 to the review in 2026 and then update the estimate using the latest data available at that time; and

(e) Use the upper end of our WACC range. 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

[861] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraphs 7.93–7.95.
[862] [Home Office email dated 19 January 2023]

period of the charge control so as to continue to deliver the required levels of service.

147 In order to provide the indicative allowed revenue figures in Table K-8, we have used a CPI-real pre-tax allowed return of 6.1% (ie the upper end of the range shown under (a) above). As noted in (b) above, this will be updated using the latest available data at the time our Order is put in place. We note that for the PDR, we estimated the allowed return through a simplified approach which multiplied the allowed return by a simple average of the identified opening and closing asset value for the relevant year, and that same simplified approach has been used to calculate the indicative allowed revenue figures shown in Table K-8. We will consult on the precise way in which RAB indexation should be applied as part of the development of the Order implementing the remedies set out in this final report, and will consider the NPV-neutral approach referred to in the Home Office's submission in that context.

148 We note the Home Office's submission that the level of working capital assumed in the PDR may be above the required level. However, we do not consider that we have a sufficient evidence base to justify a lower allowance and note that any such adjustment would in any event be relatively modest. Given this context, our view is that the approach proposed in the PDR provides a proportionate – if conservative (to the benefit of Motorola) – basis for making a working capital provision.

Indicative charge control allowances

149 Table K-8 provides an indicative view of the likely overall allowed revenue levels that would be expected to result from the application of the set of decisions presented in section 8 and this Appendix concerning how the charge control will be calibrated and applied. The figures are indicative because:

(a) The allowed return on capital percentage to be included in the Order implementing the remedies set out in this final report will be updated to reflect the latest available relevant ILG yield data at the time our Order is put in place (see paragraphs 134 to 135).

(b) The actual levels of allowed revenue that will apply will be dependent on the outturn levels of relevant inflation indices which are not yet known.

(c) The actual levels of allowed revenue that will apply in a given year will be dependent on the outcome of the cost sharing mechanism related to third party equipment capex (see paragraphs 56 and 116).

(d) The figures shown in Table K-8 have been calculated using some simplified assumptions and rounding approaches (see, for example, paragraph 145).

150 Notwithstanding the above points, we consider the figures shown in Table K-8 to provide a sufficiently clear view in relation to the likely implications of the charge control remedy for allowed revenue levels. Also, we consider section 8 and this Appendix to provide a description of the charge control remedy that is sufficiently clear to enable Motorola to understand its requirements and to make an appropriately informed assessment of likely implications.

Table K.8: Revenue allowances under the charge control remedy (before indexation and cost-sharing adjustments)

							£million
	2023	*2024*	*2025*	*2026*	*2027*	*2028*	*2029*
Opex*	143	146	145	143	142	140	139
Depreciation of opening RAB**	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Depreciation of new capex**	38	38	38	38	38	38	38
Allowed return**	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Overall allowed revenue	217	220	219	216	213	209	204

Source: CMA Analysis
** Opex figures in 2021 prices subject to 50% RPI, 50% CPI indexation*
*** Depreciation and return allowances would be adjusted to reflect the RAB being indexed to CPI from 2023*
Note: As set out in paragraph 149, 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 our Order is put in place.

151 The charge control remedy will remedy, mitigate or prevent the AEC we have found in two main ways:

(a) The level of allowed revenue under the charge control has been set to remedy, mitigate or prevent the principal detrimental effect on customers of the AEC we have identified, namely Airwave Solutions' ability to price above levels we would expect to prevail in a competitive market. As set out above, and in section 8, our assessment has been informed by consideration of Airwave Solutions' reported levels of costs in recent years, and the forecasts of costs that Motorola has provided. We note that Airwave Solutions' forecasts indicate that revenue in 2023 for the services that the charge control will cover will be around £[✂] million (absent intervention).[863] The level of allowed revenue for 2023 – to be applied to the remaining part of the year on a pro rata basis from the commencement date of the Order implementing the remedies set out in this final report – will be around £250 million (ie £217 million as shown in Table K-9, with an estimate of the increase in opex likely to result from the application of indexation increases between 2021 and 2023). That is, the charge control will be likely to result in

[863] Motorola's response to CMA RFI dated 31 January 2023, Question 1. [✂]

allowed revenues for 2023 that were around £[✂] million ([>40] [✂]%) lower than revenues that Motorola forecast absent the charge control.

(b) Calibration of the charge control has also been structured in ways that are intended to lessen the extent to which Motorola may have incentives to prolong the operation of the Airwave Network, over and above the dampening of such incentives that would be expected to result from the overall reduction in allowed revenues referred to above. In particular, the final reconciliation arrangements set out in paragraphs 134 to 135 mean that the incremental revenues that Airwave Solutions will be allowed to earn, should the Airwave Network continue to operate beyond the end of 2026 (the current National Shutdown Date), would be lower than the allowed revenue figures shown in Table K-9 for 2027-29. In particular, the incremental revenue that Airwave Solutions will be allowed to earn would arise only from the opex allowance and from the proposed funding of new capex for those years (which was set out in Table K-4 above).[864] Given this, the scope for additional gains to be earned from continued operation would be expected to be relatively limited (and dependent on Airwave Solutions being able to outperform those allowance levels, given prevailing opex and capex requirements).

Reporting requirements and assurance

Our provisional assessment in the PDR

152 In the PDR, we set out our provisional view that Airwave Solutions should be required to report annually to the CMA, and the Home Office, providing all of the information on charge control inputs and calculations necessary to demonstrate compliance with the proposed charge control. We noted that this would include providing information necessary to demonstrate:

(a) How the level of allowed revenue under the charge control had been calculated for the relevant year, including how the levels of allowed revenue had been adjusted to reflect the proposed indexation arrangements and cost sharing mechanism (given levels of external equipment capex).

[864] While the allowed revenue in 2027-29 would also include an allowance for a return on capital, this is not treated as incremental revenue, because under the alternative scenario of Airwave Network shut down in 2026, there would be a return of capital (ie the net RAB) at that time. There would, therefore, be no material incremental impact from the return on capital allowance being recoverable through revenues in 2027-29 unless Airwave Solutions' WACC was materially different from that used to set charge control allowances.

(b) How the actual revenues earned by Airwave Solutions for the provision of services covered by the proposed charge control compare to the level of allowed revenue identified under (a) for the relevant year.

(c) How any differences between actual and allowed revenues identified under (b) were being adjusted for through changes to charge levels.

(d) Our provisional view was that, in addition, Airwave Solutions should be required to provide annually:

(I) Its statutory accounts, with a detailed breakdown of the levels of opex and capex included in those accounts; and,

(II) A reconciliation between the information provided under (a) on external equipment capex and (b) (on actual revenue levels) above, and that included in its statutory accounts (as provided under (d)(I)).

153 Our provisional view was that Airwave Solutions should also be required to provide independent assurance of the reconciliation that would be required under (d) above, in order to verify that its financial submissions in relation to charge control compliance were consistent with the information included in its statutory accounts.

Parties' submissions

Motorola's views

154 Motorola submitted that the proposed reporting requirements were excessive and that there had been no attempt to try and establish the burden/cost that compliance with these requirements would impose on Airwave Solutions.[865] Motorola said that, in any case, compliance costs would have to be included in the cost base for the charge control.[866] Motorola submitted – by reference to its experience with US cost accounting obligations for government contracts – that such compliance costs can be significant to the extent that potential suppliers can be discouraged from even bidding for such contracts.[867]

Home Office views

155 The Home Office said it agreed that Motorola should be subject to annual reporting and transparency requirements.[868]

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[865] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 44.
[866] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 44.
[867] Motorola's response to the CMA's Provisional Decision Report, supplementary annex, 21 November 2022, page 44.
[868] Home Office's response to the CMA's Provisional Decision Report, 22 November 2022, paragraph 8.17.

Assessment

156 We asked Motorola which aspects of the proposed reporting and assurance requirements it considered excessive, and why. Motorola said that a particular concern was that the level of information and granularity required for demonstrating compliance and obtaining independent assurance was not clearly defined in the PDR.[869] Motorola also said that as the proposed reporting requirements included the provision of information to both the CMA and the Home Office, this opened up a wide-ranging obligation to respond to any query from the Home Office, any of its users or the CMA, without any limitation.[870] Motorola said that overall compliance costs would be expected to be around £[✂] million between 2023 and 2029, with this including allowances for consultancy support to provide guidance in setting up the charge control mechanism, dedicated finance support staff to track ongoing performance, and independent assurance.

157 Our view is that reporting on compliance with the charge control would not be expected to result in material incremental costs, other than in relation to the securing of independent assurance. We note that while the description of how the charge control has been designed and calibrated raises a range of issues that have required detailed assessment (and that have been considered in section 8 and in this appendix), the operation of the charge control should be relatively straightforward. In particular, its implementation (as described in paragraph 67), will require the fixed percentage adjustment to be made to core and police menu charges to be calculated and applied in each year of the control. No other adjustments to charges will be required. We consider the basis upon which that percentage adjustment is to be calculated to be clearly set out in paragraph 67, and the adjustments to be made for indexation and under the cost sharing mechanism will be further specified in the Order implementing the remedies set out in this final report, on which we will consult. We note that only a limited number of calculations will need to be undertaken in order to determine the size of the adjustment to be applied to core and police menu charges, and – in particular, in relation to indexation – these calculations are similar in form to those that Airwave Solutions would have to undertake in the absence of the charge control as part of the annual updating of charge levels.

158 We have decided that Airwave Solutions should be allowed to recover reasonable costs associated with meeting the independent assurance requirements under the charge control remedy, and a provision for this shall be included in the Order implementing the remedies set out in this final report.

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869 Motorola's response to CMA RFI dated 16 January 2023, Annex 1A, question 10.
870 Motorola's response to CMA RFI dated 16 January 2023, Annex 1A, question 10.

159 With respect to Motorola's comment on it facing a wide-ranging obligation to respond to potential queries 'without any limitation', we note that no such obligation was proposed in the PDR in relation to reporting and assurance requirements. Our assessment in relation to capex information provision requirements (where we did propose a requirement to respond to queries) is set out in paragraphs 53 to 55.

160 We consider that the reporting and assurance requirements proposed in the PDR provide an effective and proportionate way of monitoring compliance with the charge control remedy. Given this, reporting requirements in line with those set out in paragraphs 150 to 151 shall be included in the Order.