



**Macquarie UK Broadcast Ventures Limited/
National Grid Wireless Group
Completed acquisition**

Final report

11 March 2008

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The Competition Commission has excluded from this published version of the report information which the inquiry group considers should be excluded having regard to the three considerations set out in section 244 of the Enterprise Act 2002 (specified information: considerations relevant to disclosure). The omissions are indicated by ✂.

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Glossary

Summary

The reference

1. On 8 August 2007 the Office of Fair Trading (OFT) referred the completed acquisition by Macquarie UK Broadcast Ventures Limited (MUKBV) of National Grid Telecoms Investment Limited, Lattice Telecommunications Asset Development Company Limited and National Grid Wireless No.2 Limited to the Competition Commission (CC) for investigation and report. The reference was made under section 22(1) of the Enterprise Act 2002 (the Act). Following an extension, we were required to publish our final report by 18 March 2008.

The parties and the transaction

2. MUKBV owns Arqiva Limited (Arqiva), a provider of a range of communication services which started as the engineering division of the Independent Television Authority (ITA) and became the holder of the ITA's broadcast transmission assets.
3. The acquired companies, together with their subsidiaries, make up the National Grid Wireless Group (NGW), a provider of communication services that began as the Transmission Division of the BBC and became the holder of the BBC's broadcast transmission assets.
4. Arqiva and NGW (the parties) overlap in the provision of Managed Transmission Services (MTS) and Network Access (NA) to sites and associated facilities to terrestrial television and radio broadcasters. MTS is a package of services including some or all of network design, procurement and installation of transmitters, network monitoring, quality assurance of the signal and maintenance of transmission equipment. The provision of NA by Arqiva and NGW is regulated by the Office of Communications (Ofcom). The parties also overlap in the provision of infrastructure systems and services to Mobile Network Operators (MNOs) and other wireless communication service providers, including access to sites and masts, and the provision of ancillary services, such as site installation and rigging and portfolio management and site-marketing services. Arqiva is also involved in the distribution of signals via satellite and the provision of multiplexing services, and NGW operates two Digital Terrestrial Television (DTT) multiplexes, but the parties do not overlap in these areas.
5. MUKBV acquired NGW on 3 April 2007 for £2.5 billion. NGW's turnover in the UK for the year ended 31 March 2007 exceeded the £70 million threshold under the Act. We concluded that a relevant merger situation had been created.

The relevant markets

6. At the time of the introduction of analogue colour television in the 1960s, the Government required the BBC and the ITA to cooperate in the creation of a network of broadcast transmission sites, which resulted in the current market structure for the provision of terrestrial broadcast transmission services, now totalling 1,154 sites for television, with the main sites divided between Arqiva and NGW. Terrestrial television is currently broadcast in the UK in both analogue and digital form (DTT). Currently, there are six DTT multiplexes broadcasting multiple programmes, two of which are operated by the BBC, one by SDN Limited (SDN) (controlled by ITV), one by Digital 3&4 (an ITV/Channel 4 consortium) and two by NGW. These six multiplexes broadcast a low-power DTT service. However, the industry is engaged in a major

process of re-engineering broadcast transmission sites to enable a complete switchover from analogue television to DTT by 2012, under a process known as Digital Switchover (DSO). This process will increase the power of the DTT service to high-power, increasing the reach of DTT and improving the service quality.

7. Radio is also currently broadcast in the UK in both analogue (AM and FM) and digital form (Digital Audio Broadcasting (DAB)). Generally, FM services are broadcast from the main television broadcast transmission sites and 'in-filled' from radio-specific sites. DAB also utilizes some of the main television broadcast transmission sites. There are currently two national DAB multiplex operators (with a third licensed in July 2007 but not yet operational) and 48 sub-national commercial DAB multiplex operators. Ofcom is consulting on the future of radio broadcasting which might affect the future of AM and/or FM radio broadcasting, but there are currently no proposals for a radio equivalent to DSO.
8. In practice all television broadcasters and most radio broadcasters purchase NA bundled together with MTS, through an MTS provider, with MTS providers competing on the basis of site access solutions in which the price and quality of the total offering depends upon the selection of sites and the way in which sites are used, among other factors.
9. The markets for the provision of broadcast transmission services are distinct from those involving the provision of site access and ancillary services to MNOs and wireless communication service providers, in which the masts essentially serve as 'coat hangers' to which organizations fix their own communications equipment.
10. In this inquiry we focused on:
 - (a) The provision of MTS/NA to television broadcasters. We found that MTS/NA services for analogue, low-power digital and high-power digital television are in the same product market and that the geographic market is the UK. Alternative platforms for television transmission, including satellite and cable, are not substitutes for terrestrial television transmission.
 - (b) The provision of MTS/NA to radio broadcasters. We found that MTS/NA services for analogue and DAB radio are in the same product market. We also found that the provision of MTS/NA to radio broadcasters of national stations, regional/metropolitan stations, and those local stations broadcasting from regulated sites and for which MTS/NA is purchased centrally, are in the same product market (the relevant radio market). However, MTS/NA for radio is a different market to that for television. We found that the geographic market is the UK.
 - (c) The provision of site access and ancillary services to MNOs and wireless communication service providers. We found that it was unnecessary for the purpose of our analysis to decide whether the provision of site access to MNOs was in the same product market as the provision of site access to other wireless communication service providers. We received conflicting evidence on the geographic market, as a result of which we chose to determine market shares across the UK and then consider factors indicating that the parties' market shares determined in this way may underestimate their competitive strength.

Competition in the provision of MTS/NA to television broadcasters

11. We found that, prior to the merger, Arqiva and NGW were the only active providers of national MTS/NA to UK television broadcasters, and that each exercised a competitive constraint upon the other.

12. We considered evidence on the difficulties faced by a potential new entrant attempting to compete to provide MTS/NA for television to the BBC, and identified barriers to entry arising from:
 - difficulties for third parties in obtaining access to sites and associated infrastructure other than on terms which placed them at a disadvantage compared with NGW and Arqiva, which are integrated providers of sites and services and have reciprocal access to each other's sites;
 - the importance of reputation;
 - incumbency advantages and the significance of sunk costs; and
 - the need for a national field force and the inability to enter on a small scale, reflecting a need to demonstrate the ability to deliver the highest standards of continuity and quality of broadcast transmission, including strength in depth to deal with unusual challenges.
13. We concluded that the threat of entry was insufficient to prevent the merged entity from exercising market power. We also found that the presence of large informed customers did not provide a sufficient constraint in relation to the supply of MTS/NA to television broadcasters to prevent the exercise of market power, due to the lack of credible alternative providers.

Competition in the provision of MTS/NA to radio broadcasters

14. We found that, prior to the merger, Arqiva and NGW were the most significant providers of national MTS/NA to UK radio broadcasters, with a combined market share exceeding 85 per cent, and that each exercised a competitive constraint upon the other.
15. We considered the barriers to entry listed above in relation to the supply of MTS/NA to television broadcasters. We found that:
 - similar issues in relation to knowledge of sites and synergies apply in the case of radio;
 - although there are more active providers of MTS/NA to radio broadcasters, and therefore more companies that have established reputations in this area, at least on a small scale, the need for an established reputation still provides a barrier to entry or expansion in the provision of MTS/NA to radio broadcasters in the relevant radio market;
 - the incumbency advantages and the significance of sunk costs constitute a barrier to entry; and
 - while the scale of the field force required in the case of radio is smaller than in the case of television, and there may be greater scope for entry into MTS/NA provision on a small scale with a view to subsequent expansion, there remain significant barriers to establishing the sort of monitoring, control and maintenance systems necessary to compete effectively with Arqiva and NGW.
16. We found that the threat of entry was insufficient to prevent the parties from exercising market power. We also found that the presence of large informed customers did not provide a sufficient constraint in relation to the supply of MTS/NA

to radio broadcasters to prevent the exercise of market power by the merged entity in the relevant market, due to the lack of credible alternative providers.

Competition in the provision of site access and ancillary services to MNOs and wireless communication service providers

17. We estimated the combined market share of Arqiva and NGW in the provision of site access to MNOs to be in the range of 14 to 19 per cent, depending on how it is measured. We estimated that they had a smaller combined share of sites for use by other wireless communication service providers.
18. We considered several arguments as to why these shares may underestimate the parties' competitive strength, including:
 - the effective population of masts and structures available for third party use is less than that estimated, because many sites are unavailable for use by parties other than the principal site user;
 - higher structures in key topographical locations offering good line of sight are particularly valuable for certain applications, such as those involving microwave links; and
 - the parties' large portfolios of masts and sites enable them to provide a 'one stop shop', facilitating the rapid roll-out of new networks.
19. We noted some features of the parties' portfolios of sites which may be a source of competitive strength beyond that apparent from their market shares, although the position was not always clear-cut. Some of these, such as a greater availability for sharing than for sites belonging to the MNOs, appear to be of declining importance. Others, such as the scale of the parties' portfolios facilitating a rapid roll-out of networks, could become increasingly significant in the future in the event of the introduction of new technologies which require networks to which the parties' portfolios of sites are well suited. We took these factors into account when considering the implications of the merger for competition in the provision of site access and ancillary services.

Counterfactual

20. In deciding whether the merger was likely to give rise to a substantial lessening of competition (SLC) we compared the competitive situation that we expected following the merger with that which we expect would have prevailed absent the merger (the counterfactual). We concluded that, in the absence of the merger, NGW would have been sold to another acquirer which would have continued to operate the business of NGW, with competition between Arqiva and NGW continuing in a similar way to the situation absent the merger.

Effects of the merger

Horizontal effects on the provision of MTS/NA to television broadcasters

21. The provision of MTS/NA to television broadcasters is characterized by long-term contracts, with infrequent opportunities for competition. Against this background, we considered the effect of the loss of rivalry between Arqiva and NGW on existing customers and assessed the opportunities for future competition.

22. In relation to existing customers, we considered the impact on:
- the pressure to keep costs down;
 - the possibility of termination, or threat of termination (for example, in the event of loss of service quality);
 - the negotiation of contract variations; and
 - the ability to compare providers.
23. We noted the importance within this market of detailed contractual provisions in the long-term contracts for post-DSO MTS/NA, agreed between Arqiva and its customers, which provide incentives on Arqiva to reduce costs, maintain service quality and promote innovation. However, we concluded that the expectation of future competition is a strong disciplining factor, which complements any contractual obligations and penalties, particularly when existing contracts cannot be expected to have anticipated all possible developments.
24. As regards future opportunities for competition, we focused on opportunities that might arise from the use of spectrum to be made available over the next few years.
25. Having taken account of information from Ofcom, the parties and third parties, including Ofcom's proposals for accommodating high definition television (HDTV) on one of the existing six DTT multiplexes, we concluded that use of some of the released spectrum for a seventh national DTT multiplex, requiring MTS/NA, is more likely than not. We concluded that, if Ofcom's proposals for accommodating HDTV on the existing multiplexes were not implemented, the likelihood of a seventh national DTT multiplex would increase.
26. We also concluded that the use of some interleaved spectrum for sub-national digital television, whether on a local basis or as a quasi-national network, is more likely than not, and that in the absence of the merger this would have given rise to opportunities for competition between Arqiva and NGW in the provision of MTS/NA.
27. We considered whether mobile television might provide further opportunities for competition in the provision of MTS/NA. However, whether or when broadcast mobile television is introduced in the UK, on what scale, utilizing which technologies and how it is deployed, all remain very uncertain. As such, we were not able to predict the outcome, and therefore we were unable to predict what will be required in terms of MTS/NA in order to form any expectation regarding harm resulting from the loss of rivalry between Arqiva and NGW. If broadcast mobile television were to be widely deployed as a result of the release of further spectrum, it appears likely that sites provided by Arqiva and/or NGW would be utilized as part of a deployment. However, we believed that the loss of rivalry between Arqiva and NGW would be more likely to affect competition in access to sites rather than in MTS/NA.
28. We concluded that the loss of rivalry between Arqiva and NGW could be expected to lead to higher prices and/or lower service quality and reduced innovation in the provision of MTS/NA under existing contracts and under new national DTT or sub-national DTT contracts with television broadcasters.

Horizontal effects on the provision of MTS/NA to radio broadcasters

29. We considered the effects of the loss of rivalry between Arqiva and NGW on existing customers and in relation to new opportunities for competition in the provision of MTS/NA to radio broadcasters.
30. Compared with the parties' contracts with their television customers, the parties have many more contracts for MTS/NA with their radio customers, though these contracts are generally of shorter duration, lower value and contain less detailed terms. In this context, we concluded that the loss of rivalry between Arqiva and NGW will have an adverse impact on existing contracts for radio MTS/NA, and that there are few provisions in their existing radio contracts which will mitigate this effect.
31. We identified 105 radio contracts due to expire by 2012 and another 26 within a further two years. While accepting that incumbency benefits would limit the scope for effective rivalry between Arqiva and NGW in the provision of MTS/NA in some cases, we did not accept that they eliminated the possibility of competition. We also identified some opportunities for rivalry between Arqiva and NGW arising from future radio licences, while recognizing that, in the short term, opportunities may be limited as a result of congestion in the spectrum used for radio and uncertainties over the long-term future of AM and FM.
32. We concluded that the loss of rivalry between Arqiva and NGW could be expected to lead to higher prices and/or lower service quality and reduced innovation in the provision of MTS/NA in the relevant radio market under existing contracts and under new radio licences with radio broadcasters, and in some cases where existing contracts with radio broadcasters expire and are renegotiated.

Vertical effects

33. We considered whether the merger might also lead to vertical effects, arising from the impact on competition of the common ownership of the broadcast transmission assets of Arqiva and NGW and NGW's two DTT multiplex licences and Arqiva's multiplexing services.
34. We concluded that the merger did not raise competition concerns with respect to foreclosure in the provision of multiplexing services nor with respect to the transfer of commercial information. We concluded that, while the merger could have an impact upon competition for spectrum and future competition between multiplex providers, these effects were too speculative for us to take into account in reaching an expectation regarding an SLC. We noted that, to the extent that the effects depended upon the merged entity possessing market power in the provision of MTS/NA, they would be addressed by any remedy that removed the ability to exploit its position at the MTS/NA level.

Effects of the merger on competition in the provision of site access and ancillary services to MNOs, wireless communication service providers and other potential users

35. We considered how the market power of the parties might be affected by the merger, in the provision of site access to MNOs, wireless communication service providers or other potential users. We looked at the factors which might increase the market power of the parties, such as the possible developments in mobile television, while also considering the factors which might limit the market power of the parties, including the parties' combined overall share of sites, alternative site options

available from competing providers and the importance of location in site selection, particularly for MNOs for whom the main anticipated requirement is for new sites to fill in network gaps.

36. We concluded that, whilst some of the features of the merged entities' portfolio of sites may be a source of competitive strength, their importance in the future was unclear. We did not form an expectation of an SLC in these markets, as the merged entity's market share was below the level which the CC guidelines suggest would normally be sufficient to raise potential concerns, and there was no strong basis for considering the parties' combined share of sites to be more significant than suggested by its market share.

Regulation by Ofcom

37. We considered the effects of the merger on regulation by Ofcom and the potential impact arising from the loss of Ofcom's ability to compare Arqiva and NGW. It appeared to us that the loss of the ability to compare Arqiva and NGW potentially reduces the effectiveness of the regulatory regime. However, it is only one tool available to Ofcom in order to discharge its regulatory role in relation to NA, and we noted that other regulatory tools have been developed for determining efficient costs in other regulated monopolies. Although the ability to compare Arqiva and NGW might prove useful to Ofcom in any future assessment of pricing, we did not take the loss of this ability into account in reaching our conclusions on whether the merger gives rise to an SLC.

Findings

38. We found that the merger may be expected to lead to an SLC as a result of the loss of rivalry between Arqiva and NGW, leading to a worsening in the price and non-price factors on which the parties compete in the provision of MTS/NA to television broadcasters and to radio broadcasters.
39. We would expect that the consequences of the SLC may be:
- higher prices and/or lower service quality and reduced innovation in the provision of MTS/NA under existing contracts with television broadcasters;
 - higher prices and/or lower service quality in the provision of MTS/NA to television broadcasters with respect to new national DTT or sub-national DTT contracts;
 - higher prices and/or lower service quality and reduced innovation in the provision of MTS/NA in the relevant radio market under existing contracts with radio broadcasters;
 - higher prices and/or lower service quality in the provision of MTS/NA in the relevant radio market with respect to new radio licences; and
 - higher prices and/or lower service quality in the provision of MTS/NA in the relevant radio market in some cases where existing contracts with radio broadcasters expire and are renegotiated.

Remedies

40. We considered how best to remedy the SLC or the adverse effects we would expect to result from the SLC.

Relevant customer benefits

41. The parties submitted that the merger would give rise to significant relevant customer benefits (RCBs) which would not be achieved if we were to impose a substantial structural remedy. The parties submitted that these benefits would arise as a result of various cost savings, including operational synergies, capital expenditure synergies and savings with regard to the roll-out of DSO. We considered detailed evidence which indicated how much of these savings would be passed through to customers following the merger due to the existing arrangements for the regulation of NA and due to pre-existing gain-share agreements between Arqiva and some of its customers. Although many of the financial benefits of the merger are difficult to quantify, we believed that significant RCBs would result from the merger.

Costs on third parties

42. The parties also submitted that the merger would reduce substantially the risks inherent in the roll-out of the DSO programme due to better communication between the parties and the better coordination of resources. Though again difficult to quantify, we accepted that if a remedy option risked causing a delay to the DSO programme, it could have significant financial repercussions on many parties. We accepted that this effect could be considered as a cost on third parties, which may lead us to alter our preferred remedy.

Remedy options

43. We considered several structural remedy options, including full divestiture and various partial divestiture packages, many of which we thought would need to be complemented by a package of behavioural remedies. We also considered a package of behavioural remedies alone, without any divestment.

Full divestiture

44. We believed that full divestiture would be an effective remedy, fully restoring competition between Arqiva and NGW to the situation absent the merger.

Partial divestiture

45. We believed that the partial divestiture of NGW's entire MTS/NA business, including all of its broadcast sites, would also be an effective remedy. This package would not include NGW's wireless-only sites or its two multiplex operations, which Arqiva would be allowed to retain. We did not believe that this remedy option would require any behavioural remedies, other than the immediate agreement of a long-term contract for MTS/NA services between the two former NGW multiplexes and the divested business for the continuing provision of MTS/NA.
46. We believed that this remedy is likely to be as effective in addressing the SLC as a full divestiture. We believed that this remedy would have the same effect on RCBs and impose a similar level of costs on third parties as full divestiture, but that it would

be less intrusive. Accordingly, we concluded that we prefer this remedy to full divestiture.

Behavioural remedies only

47. The parties submitted that, due to the unique circumstances of this merger, a package of behavioural remedies was appropriate. The parties submitted, and almost all of their customers agreed, that only this remedy would preserve the significant RCBs which would result from the merger and would not create the possibility of imposing additional costs on third parties by increasing the risks to the DSO process. We accepted that the context for this merger, which has occurred in the middle of the DSO process, did give rise to a number of unique considerations.
48. One third party highlighted that the nature of the broadcast transmission market made it well suited to a package of behavioural remedies due to there being a small set of large customers (including an industry body to represent the smaller commercial radio customers), a limited number of long-term contracts for a limited range of services, and a well-established sectoral regulator (Ofcom).
49. The parties proposed a package of behavioural remedies which are designed to address the adverse effects of the SLC, including the effects on existing contracts and future contracts, whilst also ensuring that existing customers receive a significant upfront share of the savings expected to arise from the merger. In total, Arqiva's proposed package of behavioural remedies ensures that approximately £165 million is passed back to broadcast customers as a result of the merger (net present value, calculated to 2020).
50. Arqiva's proposed package of behavioural remedies includes:
 - a guaranteed and immediate 17 per cent price discount on all existing radio MTS/NA contracts (with the discounted price maintained upon renewal);
 - a guaranteed and immediate 3.25 per cent price discount on all existing analogue television and low-power DTT MTS/NA contracts;
 - guaranteed fixed-sum price reductions on all high-power DTT MTS/NA contracts, together worth £44 million to 2020 or £72 million to 2032 (net present values);
 - the option for contract renewals to be based on the same prices and terms as the existing contract or to be determined on cost-oriented and fair, reasonable and non-discriminatory (FRND) terms;
 - new contracts, for new or existing services, to be determined with cost-oriented pricing and on FRND terms or, if they are for similar services to an existing contract, the option for them to be based on the same terms as the existing contract;
 - enhanced service level and service credit provisions for all customers;
 - a 'super credit' regime to compensate for customers' inability to move to an alternative provider in the event of persistent poor performance;
 - an independent adjudicator, paid for by Arqiva but accountable to the OFT and under the guidance of Ofcom, to resolve disputes between Arqiva and its

- customers and to ensure that new services and contract variations are provided on cost-oriented and FRND terms;
- the preparation and audit of separate regulatory accounts for Arqiva's MTS and NA operations;
 - an annual audit of the DSO programme;
 - provisions to ensure the confidentiality of information which is provided to Arqiva for one purpose but which could be used by it in another part of its business to its competitive advantage; and
 - the option, at the end of an MTS/NA contract, for the customer to acquire 'stranded assets', so as to facilitate future new entry in MTS.

Conclusion on remedies

51. We considered the adverse effects arising from the merger, the RCBs and the potential costs on third parties from imposing a substantial divestment remedy, and the significant risks associated with a package of behavioural remedies which might address the adverse effects of the loss of competition but not the SLC itself.
52. We concluded that the context of this merger, within the critical time frame of the DSO programme, is unique and that the market is well suited to detailed regulation. We concluded that a package of behavioural remedies, similar to that proposed by Arqiva, has a high probability of being effective in addressing the adverse effects of the merger, though we retained a number of concerns with regard to ensuring that the proposed measures give customers and regulators certainty and clarity. We recognized that Arqiva's proposed package of behavioural remedies would pass back to customers a significant proportion of the relevant merger synergies and substantial compensation in lieu of the loss of future competition.
53. We noted that a package of behavioural remedies is the solution to the SLC supported by the broad consensus of the parties' customers and that, subject to resolving a number of detailed issues, Ofcom was supportive of the merger proceeding on this basis.
54. In addition to the ongoing monitoring of any undertakings by the OFT, we noted and supported Ofcom's suggestion that, in due course, it is likely to carry out a market review of the provision of MTS/NA services under the Communications Act 2003.
55. In order for us to be confident that a package of behavioural remedies will be effective in addressing the adverse effects of the SLC, there remain a number of points still to be resolved. It is possible that this work will reveal flaws in the effectiveness of the proposed package. If the parties are unable to propose a package of behavioural remedies to our satisfaction then we will require the parties to implement the divestiture of NGW's entire MTS/NA business.
56. Until we accept a set of behavioural undertakings from Arqiva, or until Arqiva achieves a divestiture which is effective in remedying the SLC, we will continue to require the businesses of Arqiva and NGW to be held separate.

Findings

1. The reference

- 1.1 On 8 August 2007 the OFT referred the completed acquisition by Macquarie UK Broadcast Ventures Limited of National Grid Telecoms Investment Limited, Lattice Telecommunications Asset Development Company Limited and National Grid Wireless No.2 Limited to the CC for investigation and report. The reference was made under section 22(1) of the Enterprise Act 2002 (the Act). Our terms of reference are set out in Appendix A. The initial statutory deadline for the publication of our final report was 22 January 2008. Due to the complexity of the remedies stage of the inquiry and the number of parties to consult, this deadline was extended to 18 March 2008.
- 1.2 In accordance with our terms of reference, if we find that a relevant merger situation has been created, we must decide whether it may be expected to result in an SLC. As explained in our guidelines,¹ competition is a process of rivalry between firms seeking to win customers' business over time. Our focus, therefore, is on the likely effect of the merger on that process of rivalry. If we find that we expect the merger will result in an SLC then we have a duty to decide how best to remedy the SLC and/or its adverse effects.
- 1.3 This document, together with the appendices, constitutes our final report, which we are required to publish under section 38(1) of the Act. Further information, including our provisional findings, non-sensitive versions of the parties' and third party written submissions can be found on our website. We cross-refer to these documents where appropriate.

2. Industry background and the companies

- 2.1 We begin by providing some information on terrestrial broadcast transmission and terrestrial wireless communication, which sets the background to our subsequent discussion of the relevant markets and the competition within them.

Terrestrial broadcast transmission of television

- 2.2 At the time of the introduction of analogue colour television in the 1960s (based on a 625 line standard) the UK Government required the BBC and the ITA to cooperate in the creation of a broadcast transmission network in order to enable viewers to use a single aerial to receive television services, and to avoid unnecessary duplication and costs. As a result, the BBC and the ITA designed a common network plan to cover the UK, now totalling 1,154 broadcasting sites,² with each party responsible for building approximately half of the national television network and with an agreement to share each other's sites. This common network plan and the related site-sharing arrangements resulted in the current market structure for the provision of terrestrial broadcast transmission services with key assets shared between the two companies, namely:
 - Arqiva, which is the successor to the ITA (see paragraph 2.17); and

¹*Merger references: Competition Commission Guidelines (CC2)*, June 2003, paragraph 1.20.

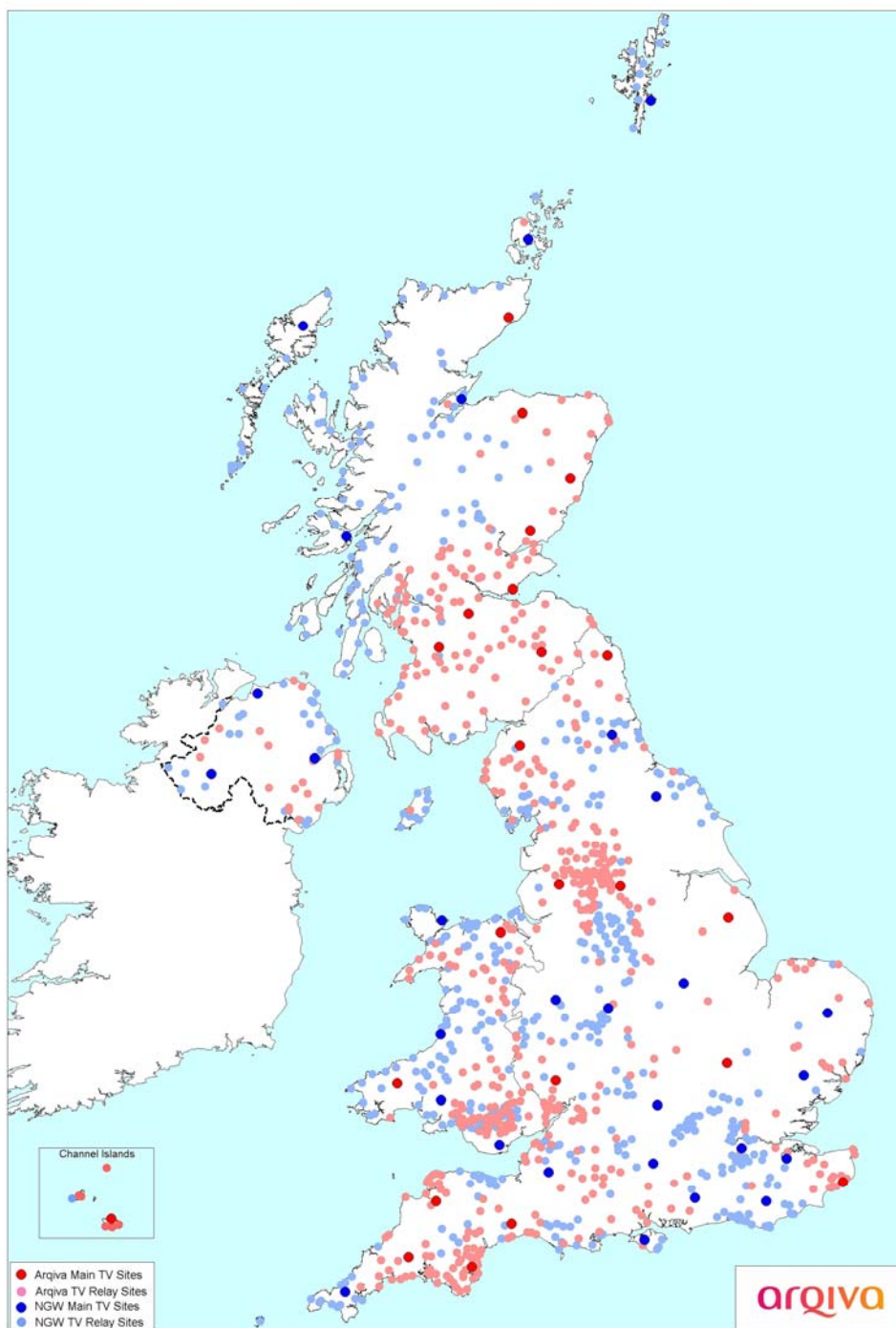
²There are 1,137 geographically separate sites, which have 1,154 different antenna systems. However, in accordance with industry practice, in this report we refer to 1,154 'broadcast sites'.

- NGW, which is the successor to the BBC Home Service Broadcast Transmission division (see paragraph 2.23).

Figure 1 shows the location of the UK television broadcast masts owned by each company.

FIGURE 1

UK television broadcast masts of NGW (blue) and Arqiva (red)



Source: Arqiva.

Notes:

1. NGW sites in blue.
2. Arqiva sites in red.
3. There are 51 main sites, 200 large relay sites and 886 small relay sites.

2.3 Analogue terrestrial television is being replaced in the UK by Digital Terrestrial Television (DTT). DTT uses multiplexing and compression technology to combine

multiple television channels on to a single broadcast frequency, operated by a DTT multiplex operator.³ The DTT platform currently comprises six DTT multiplexes, broadcasting on low power from 86 sites (see Appendix B) and reaching about 73 per cent of the population. The UK is currently engaged in a complete switchover of terrestrial television broadcasting from analogue to DTT, under a process known as Digital Switchover (DSO), due to be completed by 2012. DSO represents a significant challenge for the industry and requires the re-engineering of all 1,154 broadcast sites. On completion of DSO, three of the six existing multiplexes (multiplexes 1, 2 and B, designated Public Service Broadcasters (PSBs), two of which are controlled by the BBC and one by Digital 3&4⁴) are required to reach 98.5 per cent of UK households and will broadcast from all the re-engineered sites. The remaining three multiplexes (multiplexes A, C and D, designated commercial multiplexes, two of which are controlled by NGW and one by SDN)⁵ will broadcast from a more limited number of sites and are expected to reach in excess of 90 per cent of UK households. Table 1 lists the six multiplexes, noting which are PSBs and which commercial, and the licensee.

TABLE 1 **Digital multiplex licences**

<i>Multiplex</i>	<i>Licence</i>	<i>Licensee</i>
1	PSB	BBC
2	PSB	Digital 3&4
A	Commercial	SDN
B	PSB	BBC
C	Commercial	NGW
D	Commercial	NGW

Source: Arqiva.

2.4 The main elements of the broadcasting supply chain for analogue and digital terrestrial television are:

- content (broadcast channels)—the provision of programmes and other content for each channel;
- (for DTT only) contribution⁶ and multiplexing—the transfer of the content channels to a multiplexing centre and blending them into a single digital signal;
- distribution—sending the analogue channel or DTT multiplexed signal to each of the main transmission sites;
- MTS—a package of services including some or all of network design, procurement and installation of transmitters, network monitoring, quality assurance of the signal and maintenance of the transmission equipment, but excluding the elements described above and below; and
- NA—a package of services as defined by Ofcom for regulatory purposes, but including combining output from transmitters and broadcasting the combined signal from antennae located on suitable masts or other structures. Main broadcast transmission sites will include buildings containing MTS equipment

³Multiplex operators, as holders of one or more multiplex licences under which programmes and other content can be broadcast to viewers, should be distinguished from multiplexing services providers, who undertake the process of combining multiple signals (multiplexing) on their behalf.

⁴Digital 3&4 is jointly owned by ITV and Channel 4.

⁵SDN is owned by ITV.

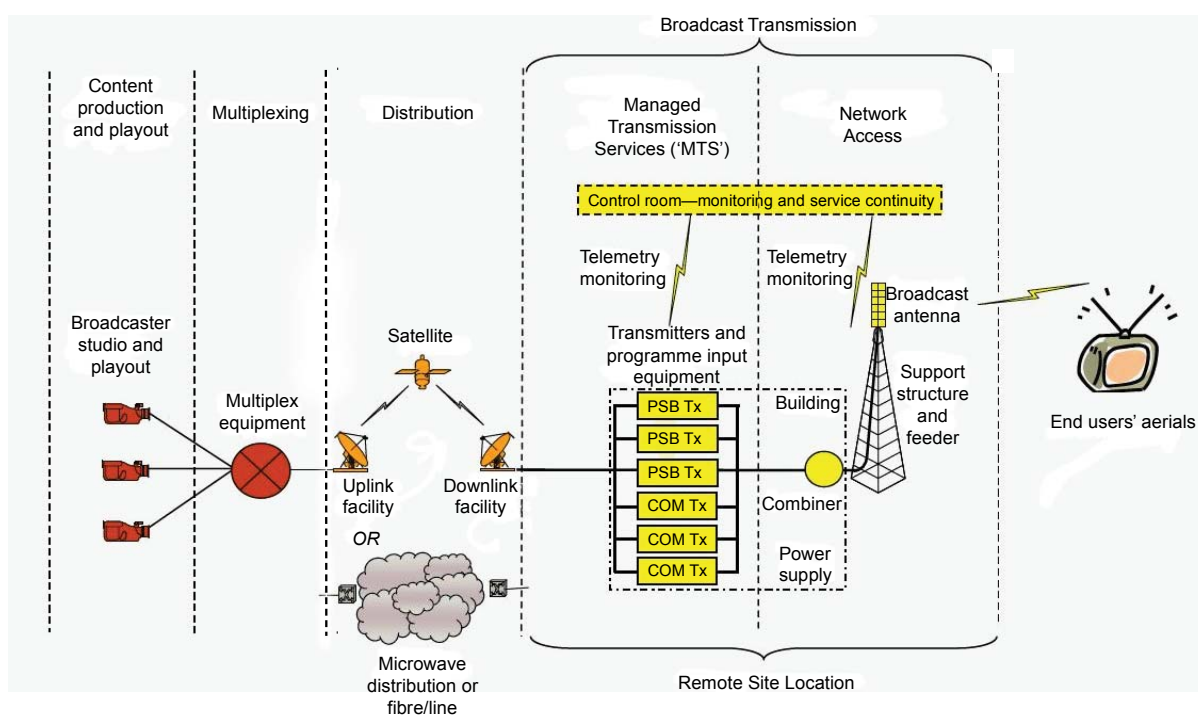
⁶'Contribution' is referred to as 'playout' in Figure 2.

managed by both Arqiva and NGW. Part of the NA provided by the company owning the mast (Arqiva or NGW) will be the provision of facilities to the other (and to others using the masts for broadcast purposes), to use the buildings and necessary services under a site-sharing agreement (see paragraph 2.7).

- 2.5 The supply chain for DTT is depicted in Figure 2. Further details on multiplexing and the operation of multiplexes, including compression, modulation and digital broadcasting standards and the impact of these on the number of content channels that can be carried on a multiplex in standard definition television (SDTV) or in high definition television (HDTV) are provided in Appendix B.

FIGURE 2

Broadcasting supply chain for DTT



Source: Arqiva.

- 2.6 The current regulatory framework for electronic communication networks and services entered into force in the UK on 25 July 2003, on the basis of five EU communications directives⁷ that are designed to create harmonized regulation across Europe. These directives have been primarily implemented in the UK by the Communications Act 2003. Among other things, the directives require National Regulatory Authorities to carry out reviews of competition in communications markets to ensure that regulation remains appropriate in the light of changing market conditions. In 2005, in accordance with these directives, Ofcom completed a review which determined that Arqiva and NGW each had significant market power arising from their control of broadcast transmission sites (the SMP decision).

⁷Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services; Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities; Directive 2002/20/EC on the authorization of electronic communications networks and services; Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services; and Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector.

2.7 The review and subsequent implementation coincided with discussions of arrangements for DSO. Ofcom introduced regulations requiring, for new contracts, each of Arqiva and NGW to provide fair, reasonable and non-discriminatory NA to their sites and associated facilities to third parties on the basis of cost-oriented pricing and to publish reference offers setting out terms on which access would be granted. For this purpose Ofcom defined NA as:

- (a) access to allow for the installation and maintenance of broadcast transmission equipment and related equipment (or provision of access to permit installation by third parties);
- (b) access to allow for the connection of such equipment to power, standby generators and other essential services;
- (c) access to sites for the use or establishment of common or exclusive building accommodation; and
- (d) access to and use of shared or shareable broadcast equipment comprising combiners, feeders, circuit way-leaves, antennae, transmitters, self-contained equipment housings and remote telemetry of the shareable equipment.

The current versions of the parties' reference offers (the Reference Offers) are available from their websites.⁸ Further information on the regulation of terrestrial broadcasting services is in Appendix C.

Terrestrial broadcast transmission of radio

2.8 Analogue radio has been broadcast in the UK since 1922 and is currently available in AM and FM formats. AM radio (which broadcasts on Low Frequency (LF) and Medium Frequency (MF)) was introduced to the UK by the BBC, which remained the only licensed radio broadcaster until 1973, when independent commercial radio commenced. FM (broadcasting on Very High Frequency (VHF)) was introduced in the mid 1950s and led, in the 1970s, to a rapid increase in the number of radio services available. Over the years the majority of listening has moved from AM to FM, which delivers improved quality and reduced interference.

2.9 FM services are generally broadcast from the main television transmission sites, but because the FM frequency has different transmission characteristics from the bands used for television, it tends to be 'in filled' from radio-specific sites. AM broadcast antennae differ from FM and television antennae as the entire mast is 'live', which causes difficulties in using the same mast for anything other than AM broadcasts. Because the BBC initially undertook all national AM radio broadcasts, the main AM sites remain with NGW today, with Arqiva owning a number of smaller AM sites for local commercial AM services.

2.10 Digital radio was first broadcast in the UK in 1995. The system, known as Digital Audio Broadcasting (DAB), now covers around 85 per cent of households, with coverage expected to rise to 90 per cent in the future.⁹ Approximately 20 per cent of UK adults now own a DAB radio.¹⁰ There are two national DAB multiplexes currently

⁸www.arqiva.com and www.nationalgridwireless.com.

⁹Although there are alternative technologies for broadcasting digital radio under development, such as Digital Radio Mondiale (DRM), this requires the use of spectrum which will only become available in the UK following the switch-off of AM analogue radio services. Ofcom is consulting on this possibility but has not made any formal proposal. We do not consider such technologies further in this report.

¹⁰See Ofcom's *Communications Market Report* (23 August 2007) at <http://www.ofcom.org.uk/research/cm/cmr07>.

broadcasting in the UK, a public sector DAB multiplex controlled by the BBC, which broadcasts from 92 sites, and a commercial DAB multiplex operated by Digital One,¹¹ which broadcasts from 137 sites. A further commercial national DAB multiplex licence was awarded to 4 Digital Group Limited¹² in July 2007. At the end of February 2008 there were, additionally, 48 sub-national commercial DAB licences.

- 2.11 The respective supply chains for analogue and digital radio broadcasting are substantially the same as for television (see Figure 2). Ofcom's SMP decision also concluded that NGW and Arqiva had significant market power in the provision of sites for radio broadcasting and introduced regulations requiring Arqiva and NGW to provide NA to sites above 50 metres and 2kW effective radiated power, on the same basis as described for terrestrial television broadcast transmission. However, unlike in the case of television, radio broadcasters are not typically obliged to transmit from specific sites and the Reference Offers for radio do not include prices.

Wireless communication

- 2.12 Masts, tall buildings and other tall structures are essential for the wireless communication industry in providing suitable sites on which antennae and microwave dishes can be mounted. The largest category of users are MNOs, of which there are currently five in the UK utilizing at least 47,000 sites.¹³ In addition, there are numerous other companies that provide wireless communication services, ranging from companies such as BT—which owns a network of 250 high sites specifically designed as a national microwave backbone—to smaller specialist companies such as MLL and Networks by Wireless, which provide bespoke wireless communication services.

- 2.13 The technologies utilized for wireless communication are not the same as those used for television and radio broadcasting, with supply chains that do not involve a requirement for MTS and NA as described in paragraph 2.4. Nevertheless, the television and radio masts owned by Arqiva and NGW provide suitable structures on which wireless communication equipment may be mounted,¹⁴ and Arqiva and NGW also operate numerous additional sites from which wireless communications are transmitted (see Table 15).¹⁵ As a result, they are substantial providers of sites and masts for wireless communication uses and they also provide ancillary services including site installation and rigging, and portfolio management and marketing.

The parties

- 2.14 We now briefly describe the parties involved in the merger, before considering the history and details of the transaction and the parties' stated rationale for it.

¹¹Digital One is a joint venture set up by GCap Media and Arqiva. Initially, Arqiva had a 36 per cent shareholding but in February 2008 it agreed in principle to acquire the remaining interest in the business from GCap Media to own the entire business. Digital One was awarded the first UK national multiplex for DAB in 1998 and started broadcasting in November 1999.

¹²The shareholders of 4 Digital Group are Channel 4 Radio Limited (55 per cent), Sky News Radio Limited (10 per cent), Emap Digital Radio Limited (10 per cent), UTV Radio (GB) Limited (10 per cent), The Carphone Warehouse Group plc (10 per cent) and UBC Media Group plc (5 per cent).

¹³The MNOs are O2, Orange, T-mobile, Vodafone and Hutchison 3G.

¹⁴Wireless communications equipment is typically attached to the mast below the television and radio broadcast antennae.

¹⁵On 20 April 2007, companies within the Macquarie group acquired Airwave Safety Communications Limited, a company that also owns masts from which it operates the only private mobile radio network in the UK.

MUKBV

2.15 The acquirer, MUKBV, owns Arqiva. MUKBV is, in turn, a subsidiary of Macquarie UK Broadcast Holdings Limited (MUKBH). A diagram showing the post-acquisition group structure of MUKBH is attached at Appendix D. The largest shareholder in MUKBH is Macquarie Communications Infrastructure Group (MCIG), which is an investment fund listed on the Australian Stock Exchange.

Arqiva

2.16 Arqiva is a provider of a wide range of communication services, and is structured into five divisions, focusing on different customer groups:

- Terrestrial Media Solutions, providing digital and analogue television and radio transmission services, including the ownership of 560 television broadcast sites;
- Wireless Solutions, providing systems and services to MNOs and other wireless operators, including transport, utility and public safety providers, including the marketing rights for 3,575 wireless sites;
- Mobile Media Solutions, dedicated to the development of new markets for the delivery of content to handheld devices;
- Satellite Media Solutions, providing satellite transmission services to customers with teleports in the UK, continental Europe and the USA, as well as playout, distribution and outside broadcast services in Europe; and
- Public Safety, providing the UK emergency services, government agencies and commercial organizations with public safety communication services.

2.17 Arqiva started life in the 1950s as the engineering division of the ITA, which later became the Independent Broadcasting Authority (IBA). In 1991, this division was hived off as Nat Trans and, in 1996, it was bought by International Cabletel, which later became the ntl Group. The broadcast division became ntl:broadcast, while the remaining Nat Trans business was integrated into other parts of the ntl Group. In 2005, the ntl:broadcast business was acquired by Macquarie UK Broadcast Limited, a wholly-owned subsidiary of MUKBH, and rebranded as Arqiva.

2.18 Arqiva's recent historic performance, independent of the transaction and therefore not including NGW in the most recent year, is summarized in Table 2.

TABLE 2 MUKBH consolidated annual profit and loss summary

	£ million	
	Year to 30 June 2006 (actual)	Year to 30 June 2007 (actual)
Revenues		
Cost of sales		
Gross profit		
Admin expenses		
EBITDA		
Non-trading items		✂
Operating profit		
Operating profit margin (%)		
Depreciation/amortization		
EBIT		
EBIT margin (%)		

Source: MUKBH management accounts.

Note: The results shown are for MUKBH but, as MUKBH's share of profits from Digital One is less than £[✂] a year, and as MUKBH's results do not include any other trading companies, these financials can be considered to be materially the same as those of Arqiva.

2.19 Arqiva's Terrestrial Media Solutions and Wireless Solutions divisions together account for approximately [✂] of Arqiva's annual revenues and approximately [✂] of Arqiva's annual profit (measured by its Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA)).

National Grid Wireless

2.20 MUKBV acquired 100 per cent of the share capital of three companies (National Grid Telecoms Investment Limited, Lattice Telecommunications Asset Development Company Limited and National Grid Wireless No.2 Limited) which, together with their subsidiaries, made up NGW.

2.21 NGW is also a provider of a wide range of communication services. It is structured into three operating divisions:

- Network Operations and Engineering, which provides the design, planning, project management and installation of broadcast and telecommunication networks, including monitoring and maintenance;
- Asset Management, which is responsible for over 5,500 active sites, used for the deployment of wireless communication infrastructure, principally by MNOs, including the 754 purpose-built broadcast towers primarily used for television and radio broadcasting; and
- Site Operations, which is principally responsible for managing the installation of wireless operator equipment on NGW's sites.

2.22 In addition, NGW is a DTT multiplex operator, owning two of the six DTT multiplex licences, with customers including Sky, Channel 4, ITV and several other commercial broadcasters.

2.23 The broadcasting business of NGW began in the 1920s as the Transmission Division of the BBC. In 1997, Castle Transmission International acquired the BBC Home Service Broadcast Transmission Division, which included the BBC's network of transmission infrastructure and which later became Crown Castle UK Limited. In July 2004 it was acquired by National Grid Transco which merged the business with its

existing wireless infrastructure business, Gridcom, and subsequently renamed the business NGW. Prior to the transaction, the ultimate holding company of NGW was National Grid plc (National Grid), owner and operator of the UK's electricity and gas transmission networks.

2.24 NGW's recent historic performance is summarized in Table 3.

TABLE 3 **NGW annual profit and loss summary**

	<i>£ million</i>	
	Year to 31 March 2006 <i>(actual)</i>	Year to 31 March 2007 <i>(actual)</i>
Revenues		
Cost of sales		
Gross profit		
Gross margin (%)		
Admin expenses		
Operating profit (EBITDA)		
EBITDA margin (%)		
Depreciation/amortization		
Exceptional items		
EBIT (after exceptional items)		
EBIT margin (%)		

Source: NGW management accounts.

2.25 Broadcast services and site rental account for over [X] per cent of NGW's annual revenues, and [X] per cent of its gross profit.¹⁶

Overlap between the parties

2.26 The parties overlap in the provision of broadcast transmission services (MTS and NA as shown in Figure 2) to terrestrial television and radio broadcast companies and multiplex operators, and in the provision of infrastructure systems and services (access to sites, including masts, and the provision of ancillary services, such as site installation and rigging and the provision of portfolio management and marketing services to site owners) to MNOs and other wireless communication service providers. Whilst Arqiva is also involved in the distribution of signals via satellite and the provision of multiplexing services, NGW is not. NGW operates two of the six DTT television multiplexes, but Arqiva is not a DTT multiplex operator.¹⁷

3. The merger

The transaction

3.1 In November 2006, National Grid announced its intention to concentrate its activities on the UK and US electricity and gas markets. In accordance with this strategy, on 16 November 2006, National Grid announced its intention to demerge NGW from its other operations, with a view to listing it as a separate entity on the London Stock Exchange. However, following this announcement, National Grid received approaches from several parties indicating an interest in potentially acquiring the

¹⁶NGW provided segmental profit figures for gross profit, while Arqiva provided segmental profit figures for EBITDA, as presented in paragraph 2.19.

¹⁷As explained in footnote 11, Arqiva previously had a 36 per cent share in Digital One, one of the three national DAB radio multiplexes, but has recently agreed in principle to acquire the remaining stake from GCap Media.

NGW business and decided to run, in parallel, a demerger process and a sale process.

- 3.2 National Grid distributed Information Memoranda to potential purchasers in early February 2007, received indicative offers, shortlisted potential purchasers on 2 March 2007, received five second-round offers on 2 April 2007, and completed the transaction on 3 April 2007. Further details of the transaction process are provided in paragraphs 6.3 and 6.4.
- 3.3 The consideration paid by MUKBV for NGW, on a debt-free/cash-free basis, was £2.5 billion. MUKBV received 100 per cent of the share capital of the three separate legal entities, which together made up NGW.

Rationale for the merger

- 3.4 Evidence submitted to us by Arqiva indicated that Arqiva had three principal reasons for acquiring NGW, as follows:
 - a defensive reason—to avoid the risks to Arqiva arising from the purchase of NGW by another buyer, whose approach to its operation could potentially adversely affect Arqiva through its impact on the DSO process;
 - an efficiency reason—that there were ongoing duplicated costs (eg in field forces and back office operations) and forthcoming one-off capital expenditure costs, in particular within DSO, which might be saved through a merger and a more efficient management of the process; and
 - a market expansion and entry reason—that NGW's assets both complemented the assets offered by Arqiva, in particular the national network of broadcast and wireless assets, and enabled Arqiva to enter new markets, in particular with NGW's two DTT multiplexes.

Jurisdiction

- 3.5 Under section 35 of the Act, the CC is required to decide whether arrangements have resulted in the creation of a relevant merger situation such that:
 - (a) two or more enterprises cease to be distinct; and
 - (b) either the turnover test or share of supply test is satisfied.
- 3.6 Any two enterprises cease to be distinct if they are brought under common ownership or common control. As described at paragraph 3.3, under the terms of the transaction NGW came under the control of MUKBV.
- 3.7 The turnover test pursuant to section 23(1) (b) of the Act will be met if the value of the turnover in the UK of the enterprises being taken over exceeds £70 million. As shown in Table 3, NGW's turnover in the UK for the year ended 31 March 2007 was £[~~70~~]. This exceeded £70 million and the turnover test is therefore satisfied.
- 3.8 Therefore, we concluded that a relevant merger situation under section 23(1) of the Act has been created.

Interim undertakings

- 3.9 On 27 April 2007, the OFT accepted undertakings under section 71(2) of the Act from MUKBV to prevent any action which might prejudice its investigation or a subsequent investigation by the CC. Following the reference to the CC in August 2007, we adopted the undertakings given to the OFT. We considered requests from the parties for variations to the undertakings and considered whether other changes to the undertakings were necessary to prevent pre-emptive action (as defined by section 80(10) of the Act) by the parties. As a result, on 15 October 2007, we accepted revised undertakings, given by MUKBH, in accordance with section 80(2) of the Act.

4. Market definition

- 4.1 We considered the appropriate product and geographic market definitions, applying the methodology set out in our guidelines.¹⁸ We do not regard market definition as an end in itself, but rather as a framework within which to analyse the effects of a merger on competition. The definition of the relevant market(s) is a useful tool for analysing the competitive constraints faced by the parties to the merger from other firms supplying the market.
- 4.2 We considered the market definition appropriate for those services in respect of which the parties overlap:
- (a) terrestrial broadcast transmission services for television;
 - (b) terrestrial broadcast transmission services for radio; and
 - (c) the provision of sites and ancillary services for MNOs and other wireless communication service providers.

Broadcast transmission services: the relationship between MTS and NA

- 4.3 As described in paragraph 2.4, companies that broadcast content for television or radio (whether they produce content, or aggregate it, or are multiplex operators), referred to as broadcasters in this report, may require a range of services in order to transmit their content to viewers, including design and planning of transmission services, transfer of signals to multiplexing centres (contribution), multiplexing services, distribution of signals to broadcasting sites, procurement and installation of transmitters and other non-shareable service-specific equipment, NA to masts and antennae, network monitoring and field maintenance. Although these can be purchased under 'end-to-end' contracts, this is not always the case, with specialist providers competing to provide elements such as contribution, multiplexing services and distribution.
- 4.4 Although in principle MTS and NA might be obtained separately, in practice all national television broadcasters and most radio broadcasters purchase NA together with MTS, through an MTS provider (ie although a contract with an MTS provider may separately itemize NGW NA charges, Arqiva NA charges and charges for MTS, all charges are calculated annually and aggregated over sites). MTS providers compete on the basis of a total broadcast solution, in which the price and quality of the total offering may depend upon differences in the selection of sites or the way in which sites are used, among other factors. Several third parties told us that

¹⁸*Merger References: Competition Commission Guidelines (CC2)*, June 2003.

broadcasters determined their choice of supplier on the basis of the total cost of NA and MTS and that, from their perspective, the relevant product was the supply of MTS and NA in combination (referred to as MTS/NA hereafter).

- 4.5 The parties did not dispute that national television broadcasters typically buy a single product from their MTS provider, of which NA is a constituent element, but argued that this 'retail' market was supported by what they described as a 'wholesale' market from which MTS/NA providers could obtain NA. As evidence for the separate existence of a wholesale market for NA, they noted that:
- Arqiva obtained access to NGW sites to enable it to provide MTS/NA to its customers;
 - NGW obtained access to Arqiva sites to enable it to provide MTS/NA to its customers;
 - some third parties obtained access to both Arqiva and NGW sites to provide MTS/NA for sub-national radio and sub-national television services; and
 - Arqiva and NGW obtained access to third party sites to enable them to provide MTS/NA to their radio customers.
- 4.6 The parties submitted that this market remained in existence post-merger, in that the merged entity would be obliged to provide third party access to its sites, as well as the merged entity continuing to obtain access to third party sites to enable it to provide MTS/NA to its customers. They submitted that it was the existence of this 'wholesale market' for NA which enabled MTS/NA providers to compete whether or not they were themselves owners of sites.
- 4.7 As described in paragraph 2.7, the provision of NA by Arqiva and NGW is an activity subject to regulation by Ofcom, in which Arqiva and NGW do not compete other than through competition in the provision of MTS/NA. In this inquiry, we focused on the impact of the merger on competition in the provision of MTS/NA. We considered, under barriers to entry, the extent to which regulated access to NA enables potential MTS/NA providers other than Arqiva and NGW to compete with them (see paragraphs 5.14 to 5.26 for television and paragraphs 5.51 to 5.55 for radio).

MTS/NA for terrestrial television

Product market

- 4.8 Under the terms of their licences, analogue television broadcasters are obliged to use named transmission sites. In particular, the free-to-air PSBs (the BBC, ITV, and Channel 4/S4C (Channel 4 Wales)) are required to reach 98.5 per cent of UK households (24.8 million households), which requires them to broadcast from all 1,154 broadcast sites. Digital television multiplex operators are also required to broadcast from specific sites under the terms of their licences. Post-DSO, the three PSBs will transmit national digital terrestrial television from 1,160 sites, reaching 98.5 per cent of UK households, and the three commercial television multiplexes will broadcast from approximately 80 sites, reaching over 90 per cent of UK households (see Table 4). The sites from which they broadcast determine where and on what scale they require MTS/NA services.

TABLE 4 **Digital terrestrial television net coverage post-DSO**

		<i>households*</i>	
	<i>Sites†</i>	<i>Number m</i>	<i>%</i>
Public service broadcast multiplexes	1,159–1,160	24.8	98.5
Commercial broadcast multiplexes	81–82	22.8	90.5

Source: Ofcom and CC calculations.

*Net coverage, ie excluding overlapping service from nearby transmitters.

†Number of sites varies because SDN's multiplex additionally operates from the Ferryside transmitter, from which coverage is very low.

- 4.9 Against this background, we considered whether MTS/NA for analogue television, for low-power digital television and for high-power post-DSO digital television are in the same product market.
- 4.10 The parties submitted that the provision of MTS/NA for analogue and digital television were in the same product market due to the possibility of supply-side substitution.
- 4.11 Whilst suppliers of MTS/NA services to analogue broadcasters, to low-power digital broadcasters and to high-power digital broadcasters will need to supply slightly different services in terms of the transmission equipment used and the particular sites required, it was not clear to us that these differences are such as to imply different product markets. In this context we noted that they involve the same suppliers, providing essentially similar MTS/NA utilizing NGW and Arqiva sites to provide national or near national coverage, such that competitive conditions in these markets appear very similar. For the purpose of our inquiry we therefore treated these as being in the same product market.

Geographic market

- 4.12 With the exception of 11 local analogue television stations, operating on a small scale and broadcasting under Television Restricted Service Licences, all terrestrial television broadcasting is from sites geographically spread around the UK. MTS/NA is contracted on the basis of the national networks. We concluded that the geographic market for the provision of MTS/NA for terrestrial television is the UK.

MTS/NA services for radio

Product market

- 4.13 We considered the product market for MTS/NA for radio. The BBC told us that it treated BBC local radio as part of a national network, and its approach to procurement of MTS/NA for BBC local radio was the same as for BBC national radio. In order to consider differences between the supply of MTS/NA to national, regional/metropolitan and local radio stations we focused therefore on the commercial and independent sector.
- 4.14 Analogue radio broadcast licences are less prescriptive than television broadcast licences, specifying areas to be covered but not specific sites to be used (not least because, unlike analogue and DTT television, radio broadcasting is generally non-directional). However, ensuring compliance with Ofcom's strict interference standards means that there may be limited opportunity to substitute sites (on the demand or

supply side), especially when issues of topography and capacity constraints are considered.

4.15 In its approach to radio broadcasting, Ofcom distinguishes between national radio broadcasting (defined as using antennae of 50 metres or more in height and at a power of 2kW or more); regional/metropolitan broadcasting (defined as using over 0.5kW in power and reaching in excess of 200,000 people); and local radio broadcasting (defined as using up to 0.5kW in power and reaching fewer than 200,000 people). These definitions are summarized in Table 5.

TABLE 5 Ofcom's market definition for radio broadcasting

	<i>Aerial height m</i>	<i>ERP* kW</i>	<i>MCA† '000</i>
National	>50	>2	
Regional/metropolitan		>0.5	≥200
Local		≤0.5	<200

Source: Ofcom.

*Effective radiated power.

†Measured coverage area (adult population).

4.16 A third party broadly confirmed these definitions, but noted that there were important differences within local radio, and suggested the following distinctions:

- community radio stations with a single, low-power transmitter (ie not greater than 100W) covering a very local area (eg a university campus);
- small-scale local radio stations with a single, low-power transmitter (ie not greater than 100W) covering a single town;
- local radio stations with a main transmitter of between 100W and 2kW, and one or more smaller, overlapping 'filler' transmitters covering one or more towns—many of these stations are now owned by large media groups;
- regional/metropolitan radio stations, whose licence requirements prescribe that they transmit with one/several overlapping transmitters of between 5kW and 10kW, typically covering one or more major conurbations; and
- national radio stations (being the rest).

4.17 In order to assess these distinctions we examined Ofcom data on the technical parameters of national and sub-national radio broadcast sites.

4.18 There are:

- four commercial stations (two AM-only, TalkSport and Gold;¹⁹ one FM-only, Classic FM; and one hybrid AM/FM, Virgin) operating 25 or more tall, high-power transmitters;
- numerous local commercial stations (mostly FM-only) with a single, low-power transmitter;

¹⁹Gold was formed from the merger of Classic Gold and Capital Gold and launched on 3 August 2007.

- many regional/metropolitan commercial stations, which have several transmitters of varying power, forming a very heterogeneous group; and
 - 49 commercial multiplexes of which one is national, 14 are regional/metropolitan and 34 are local, with each multiplex transmitting an average of ten radio stations, from between 3.1 sites on average (for the local multiplexes) to 137 sites (for the national multiplex).
- 4.19 Against this background we considered whether:
- MTS/NA services for AM analogue, FM analogue and for DAB digital radio are in the same product market; and
 - MTS/NA services for national, regional/metropolitan and local radio are in the same product market.
- 4.20 The parties submitted that MTS/NA for analogue and/or digital terrestrial radio broadcasting were in the same market, but that MTS/NA for national radio and for sub-national radio were in different product markets.
- 4.21 The arguments for regarding MTS/NA for AM analogue, FM analogue and DAB digital as being in the same product market are similar to those for television in paragraphs 4.10 and 4.11. Although AM transmitters generally cannot share a mast with other radio services due to differences in the technologies employed (see paragraph 2.9), the provision of MTS/NA for AM and other radio services is in other respects sufficiently similar for them to be in the same product market on the basis of supply-side substitution.
- 4.22 Therefore, as in the case of television, for the purpose of our inquiry we treated MTS/NA for analogue and DAB digital radio as being in the same product market.
- 4.23 We considered whether services for national, regional/metropolitan and local radio are in the same product market.
- 4.24 In terms of MTS/NA needs, relevant factors include the extent to which there is a need to propagate a signal over a wide area (favouring tall purpose-built transmission masts, broadcasting signals from more than one location, and the use of higher-power transmitters potentially requiring a more specialist workforce). Tables 6 and 7 show 16 AM stations, 106 FM stations and 42 DAB multiplexes that currently broadcast from Arqiva and NGW regulated sites, of which six AM stations, 21 FM stations and 21 DAB multiplexes transmit from four or more sites. We noted that a substantial proportion of MTS/NA for local radio is purchased by seven large commercial groups. Most of these, we were told, purchase MTS/NA centrally (although the existence of differing licence periods normally precludes procurement on behalf of multiple stations at one time) and their requirements more closely resemble those of national and regional/metropolitan broadcasters than those of the smaller stations such as community stations. The smaller the population reached and revenue generated, the fewer the sites and the lower the power at which a station is likely to be broadcast. Hence, for these radio stations, access to regulated sites will be less important.

TABLE 6 AM and FM site regulation

<i>AM radio stations</i>				
<i>No of sites per radio station</i>	<i>No of stations</i>	<i>No of stations with some Arqiva or NGW regulated sites</i>	<i>No of stations with no Arqiva or NGW regulated sites</i>	<i>With no Arqiva or NGW regulated sites—but using other sites above 50m and 2kW ERP</i>
1	25	9	16	6
2	7	1	6	1
3	1	0	1	0
4	2	2	0	0
5	1	0	1	1
10	1	1	0	0
29	1	1	0	0
34	1	1	0	0
35	1	1	0	0
Total AM	40	16	24	8

<i>FM radio stations</i>				
<i>No of sites per DAB MUX</i>	<i>No of MUXs</i>	<i>No of MUXs with some Arqiva or NGW regulated sites</i>	<i>No of MUXs with no Arqiva or NGW regulated sites</i>	<i>With no Arqiva or NGW regulated sites—but using other sites above 50m and 2kW ERP</i>
1	213	40	173	37
2	50	25	25	6
3	29	20	9	2
4	13	10	3	0
5	8	6	2	0
6	1	1	0	0
7	2	2	0	0
14	1	1	0	0
42	1	1	0	0
Total FM	318	106	212	45

Source: CC analysis of data from Ofcom.

TABLE 7 DAB multiplexes

<i>No of sites per DAB MUX</i>	<i>No of MUXs</i>	<i>No of MUXs with some Arqiva or NGW regulated sites</i>	<i>No of MUXs with no Arqiva or NGW regulated sites</i>	<i>With no Arqiva or NGW regulated sites—but using other sites above 50m and 2kW ERP</i>
1	4	3	1	0
2	10	8	2	0
3	14	10	4	2
4	8	7	1	0
5	4	4	0	0
6	3	2	1	0
8	1	1	0	0
9	2	2	0	0
10	2	2	0	0
11	1	1	0	0
22	1	1	0	0
126	1	1	0	0
Total DAB	51	42	9	2

Source: CC analysis of data from Ofcom.

4.25 Against this background, we were not persuaded that the relevant market divide is between MTS/NA for national and for sub-national radio. We found that suppliers of MTS/NA to some sub-national radio stations (regional/metropolitan radio broadcasters and the larger commercial radio groups with multiple local stations broadcasting from regulated Arqiva or NGW sites) would be likely to constrain a hypothetical monopolist of MTS/NA provision to national radio broadcasters, given the scope for supply-side substitution. By contrast, suppliers of MTS/NA to smaller local radio stations would not. Although the boundary is unclear, there is at least a significant part of local radio for which the conditions for the provision of MTS/NA are sufficiently similar to that for national and regional/metropolitan radio for it to be in the same product market. Therefore, we concluded that the relevant product market for our inquiry is the provision of MTS/NA to radio broadcasters of national stations,

regional/metropolitan stations and those local radio stations broadcasting from regulated sites and for which MTS/NA is purchased centrally (the relevant radio market). We did not judge it necessary for the purpose of our inquiry to reach a view on whether the provision of MTS/NA to other radio stations forms a single product market or is further subdivided.

Geographic market

- 4.26 Much of the relevant radio market is national. Furthermore, the parties and third parties suggested that, in accordance with the previous conclusions of both Ofcom and the OFT, the conditions for competition in the provision of MTS/NA to sub-national radio are also national in scope, given that the majority of sub-national analogue radio stations and DAB multiplexes are owned by large media groups which take commercial decisions centrally for their geographically dispersed portfolio of stations. We concluded that the geographic market for the provision of MTS/NA to the relevant radio market is the UK.

Relationship of MTS/NA for television to MTS/NA for radio

- 4.27 We then considered whether MTS/NA services for television are in the same market as MTS/NA services for radio.
- 4.28 The parties submitted that MTS/NA for television and radio were different product markets, drawing attention to several differences in their respective requirements.
- 4.29 On the other hand we noted that Ofcom regards MTS/NA for national television broadcasting to be in the same market as MTS/NA for national radio broadcasting, on the grounds that there are economies of scope in using the same sites and sometimes the same masts for both services (and using a national field force to provide services to both), such that any competitive constraint that may act on a hypothetical monopolist of sites used for national radio and television broadcasts will have to come from a provider offering a similar cluster of services.
- 4.30 While we accepted that there may be advantages in providing MTS/NA for both radio and for television, for example in terms of the shared use of personnel, we noted that there are significant differences in terms of the requirements for MTS/NA in the two cases, for example in terms of the power and size of the transmitters and antennae used, as well as, in some cases, the sites used. We observed that, in general, customers for the two services differ. We also noted the importance of an established reputation as a provider of MTS/NA for television when bidding to supply television broadcasters (see paragraph 5.27). As a result, we found that it would not, in practice, be possible for a provider of radio MTS/NA to act as a competitive constraint upon a hypothetical monopolist of MTS/NA for television. While it is less clear as to what extent a provider of MTS/NA to television might act as a competitive constraint on a hypothetical monopolist of MTS/NA to radio, this was not something on which we ultimately needed to reach a view in the light of our analysis of competition in Section 5.

Market definition for broadcast platforms

- 4.31 Finally, we considered the relationship between terrestrial television broadcasting and television broadcasting on other platforms.
- 4.32 The parties told us that terrestrial broadcasting was one of a number of platforms (including satellite and cable) competing to attract viewers. However, from our

perspective the question was not whether alternative platforms may be substitutes from the perspective of viewers, but whether any such substitutability affects the market definition at the level of MTS/NA.

- 4.33 In this regard, several third parties told us that alternative platforms were not substitutes from the viewpoint of PSBs because the broadcasters' licences required them to broadcast public service channels terrestrially. Furthermore, they told us that even if there were no requirement to broadcast terrestrially, they would wish to broadcast their core offering on all platforms.
- 4.34 We concluded that alternative platforms for terrestrial television broadcasting, including satellite and cable, are not substitutes for terrestrial transmission.

Conclusions on market definition for MTS/NA

4.35 We concluded that:

- MTS/NA to television broadcasters for analogue, low-power digital and high-power digital television are in the same product market;
- the geographic market for MTS/NA for terrestrial television is the UK;
- MTS/NA to radio broadcasters for analogue and DAB digital radio are in the same product market;
- MTS/NA to radio broadcasters of national stations, regional/metropolitan stations, and those local stations broadcasting from regulated sites and for which MTS/NA is purchased centrally are in the same product market (the relevant radio market);
- the geographic market for MTS/NA for radio is the UK;
- MTS/NA for radio is in a different market to that for television; and
- alternative broadcasting platforms for television transmission, including satellite and cable, are not substitutes for terrestrial transmission.

Provision of site access and ancillary services to MNOs and wireless communication service providers

4.36 We considered the markets for the provision of site access and ancillary services to MNOs and wireless communication service providers. Both Arqiva and NGW are active in the provision of services to MNOs and to other wireless communication service providers. In particular, both are involved in providing site rental (space on masts operated by them) and ancillary services (site installation and rigging, and portfolio management and marketing).

Product market

- 4.37 The OFT identified separate markets for the provision of site access to MNOs and to other wireless communication service providers on the basis of:
- different issues and constraints facing the MNOs;

- different specifications of the necessary antennae and equipment, and the different network design and coverage requirements; and
 - the fact that the MNOs have their own networks of (shareable) sites.
- 4.38 Several third parties also suggested that there were separate markets for the provision of site access for mobile telecommunication transmission and for other wireless communication transmission on the basis of an absence of demand-side substitution and very limited supply-side substitution.
- 4.39 On the other hand, the parties told us that they were unsure that there were, in fact, different product markets, and we noted similarities in the uses made of the parties' sites and masts by MNOs and by other wireless communication service providers for certain purposes. We noted, for example, that the use of masts operated by the parties by MNOs to mount microwave communication equipment to provide backhaul services²⁰ appears very similar to their use by other wireless communication service providers to mount microwave communication equipment to provide bespoke communications solutions. This similarity suggested that, at least for these purposes, a hypothetical monopolist in the supply of sites to MNOs might be constrained by the availability of sites to other wireless communication service providers.
- 4.40 Our analysis of competitive constraints (see paragraphs 5.65 to 5.85) suggested that it is not necessary for the purpose of our inquiry to decide whether the provision of site access to MNOs and the provision of site access to other wireless communication service providers are in the same or separate product markets, and we did not conclude on this issue.
- 4.41 The OFT also identified separate product markets for site access and for ancillary services, and the parties and several third parties suggested that these products were distinct. Although some third parties suggested that Arqiva and NGW often bundled ancillary services with site access, other suppliers of site access did not bundle these products (to the extent that they supplied them at all). We did not disagree with the characterization of site access and ancillary services as different product markets.

Geographic market

- 4.42 The OFT noted that, historically, there has been a UK-wide element to competition in site access and ancillary services inasmuch as suppliers, such as the parties with large portfolios of sites, have entered into umbrella agreements with MNOs and other wireless communication service providers wishing to roll-out coverage across the UK. The parties and several third parties told us that competition continued to be predominantly UK-wide, for example in that prices were generally set based on technical factors such as antenna configuration, height and aperture rather than location, and because there might be chains of substitution between local sites.
- 4.43 On the other hand, some MNOs and other wireless communication service companies provided examples where, in particular locations, there were few existing suitable structures and planning authorities were reluctant to consent to the construction of new masts, and these factors had placed NGW or Arqiva in a strong commercial position (see paragraphs 5.71 to 5.73). This evidence suggested that a hypothetical monopolist of sites in a particular geographic area may not be constrained by the availability of sites in other locations, indicating more local

²⁰The transmission of bundles of signals from cell sites back to a control centre; see Glossary.

markets. However, from the evidence we received, it appears to be rare in practice for there to be choice between an Arqiva site and an NGW site but a lack of third party alternatives.

- 4.44 It was unclear how far the existence of such examples undermines the proposition that, in general, the geographic markets for site access and for ancillary services are UK-wide. Rather than seek to resolve this at the level of market definition, we chose to determine market shares across the UK but then considered factors indicating that the parties' market shares estimated on this basis may underestimate their competitive strength (see paragraphs 5.71 to 5.84).

5. Assessment of competition

Provision of MTS/NA for television broadcasting

- 5.1 The broadcasting supply chain for DTT was described in paragraph 2.4 and Figure 2. Arqiva and NGW are the only currently active providers of national MTS/NA to UK television broadcasters. On the basis of their recent combined income from the provision of MTS/NA for television, we estimated the size of the market to be around £150 million a year.²¹
- 5.2 NGW supplies MTS/NA to its own multiplexes and also holds the contracts for the supply of MTS/NA for:
- the BBC analogue television services; and
 - the BBC's two low-power digital multiplexes.
- 5.3 Arqiva holds the contracts for the supply of MTS/NA for:
- the ITV, Channel 4 and Channel 5 analogue television services;
 - the Digital 3&4 and SDN low-power multiplexes, up until DSO; and
 - the BBC, Digital 3&4 and SDN high-power multiplexes post-DSO.
- 5.4 The market for MTS/NA for television is a market in which broadcasters typically invite tenders from providers on the basis of long-term contracts. Given the limited number of television broadcasters and the long-term nature of contracts, opportunities to compete for contracts are infrequent. The most recent such tender exercises were conducted in the context of DSO and resulted in contracts being awarded with termination dates between 2031 and 2034. We were told by the parties and by third parties that these contracts were for such long terms (with limited termination rights and substantial provisions for damages and other financial penalties—see paragraph 7.14) because of the need to recover the high capital costs over a long period.
- 5.5 Arqiva and NGW competed for the provision of MTS/NA post-DSO on the basis of tender exercises conducted by the BBC, Digital 3&4 and SDN, which specified to different levels of detail the price and non-price factors on which bids would be assessed. We were told that the processes had entailed protracted negotiations and that competition between Arqiva and NGW had provided significant benefits.

²¹As noted in paragraph 4.3, in this report we use the term 'television broadcasters' to include television multiplex operators.

- 5.6 Only one company other than Arqiva and NGW, VT Communications (VTC), sought to compete for the post-DSO MTS/NA contracts. VTC is a provider of MTS/NA for radio formed through the privatization of the transmission operations of the BBC World Service in 1997, which provides services to the BBC World Service both in the UK and internationally and to other customers worldwide. VTC's turnover was £101 million in financial year 2006/07. Although it pre-qualified and held detailed discussions with the BBC for the provision of MTS/NA to the two BBC multiplexes post-DSO, it subsequently withdrew. The reasons for this withdrawal are considered further under barriers to entry in paragraphs 5.9 to 5.11.
- 5.7 The parties, whilst not disputing that Arqiva and NGW had provided a competitive constraint upon each other, submitted that competitive constraints also arose from:
- (a) the threat of new entry or expansion from bidders such as VTC, under conditions where NA was regulated by Ofcom; and
- (b) the presence of informed customers.

Entry

- 5.8 The parties identified several actual or potential competitor providers of MTS/NA to television broadcasters, including VTC and several providers of similar services established in other European countries such as TDF, T-systems, RTÉ and Retevison (Abertis Telecom).
- 5.9 We considered evidence from both VTC and the BBC on VTC's attempt to enter the market for the provision of MTS/NA for television through a bid for the contract to provide MTS/NA to the BBC multiplexes post-DSO.
- 5.10 VTC told us that, although it had pre-qualified for the BBC contracts, it eventually decided not to bid following a thorough review of the contract documents, risk profile and its weak market position compared with Arqiva and NGW as vertically integrated competitors. VTC noted that it had faced various barriers to entry, including:
- lack of detailed information about the sites to which it required site access;
 - lack of clarity on price; and
 - issues surrounding the provision of a suitable national field force.
- 5.11 The BBC confirmed that VTC had been considered as a potential provider of MTS/NA but informed us that, although VTC did not ultimately submit a bid, it would have had considerable reservations in awarding the contract to a provider with little experience in the relevant market. The BBC noted that the lack of published reference offers at the time might have been one reason why VTC ultimately withdrew from the bidding process. However, the BBC also expressed a concern about whether VTC would have had the necessary know-how at the time to challenge effectively the assumptions and design decisions made by the site access providers, Arqiva and NGW, to allow it to drive sufficient efficiencies from site access costs to compete with the bids from Arqiva and NGW. The BBC also noted that it evaluated each bid not only on the basis of price but on quality and risk. The BBC told us that VTC did not get particularly close to the best and final offer stage, noting that:

- whilst VTC staff had general expertise relevant to the provision of terrestrial transmission services, they had no in-house expertise of designing or operating high-power FM radio, DAB digital radio or digital television transmission systems;
 - VTC's knowledge was concentrated within a much smaller number of staff than in the case of either Arqiva or NGW; and
 - VTC would have faced a significant challenge in expanding its transmission engineering functions, whether through highly specialized training or through attempting to recruit staff with the necessary skills and experience.
- 5.12 None of the broadcasters believed that any other third party was a credible entrant. The provision of television broadcast services in other European countries differs in important respects from that in the UK (with all broadcast transmission sites being under the control of a single national provider in each country and DTT typically playing a less significant role relative to satellite and cable) and we received only one response from the European companies identified by the parties. This response was from RTÉ, which told us that it had no plans to compete to provide MTS/NA in the UK. We also contacted [redacted], which told us that it had been involved in competitive tendering exercises alongside the parties offering complementary rather than competing services, and had no plans to provide MTS/NA in the UK in the future.
- 5.13 Against this background, we considered the following barriers to entry:
- the need for access to sites and associated infrastructure on terms that do not place third parties at a disadvantage to NGW and Arqiva as integrated providers of sites and services with reciprocal access to each other's sites;
 - the importance of reputation;
 - incumbency advantages and the significance of sunk costs; and
 - the need for a national field force and the inability to enter on a small scale, reflecting a need to demonstrate the ability to deliver the highest standards of continuity and quality of broadcast transmission, including strength in depth to deal with unusual challenges.

Access to sites and infrastructure

- 5.14 Any potential provider of MTS/NA services needs to obtain access to sites from which the customers are required and/or need to transmit. This need may arise, for example, from the direction of viewers' aerials restricting the use of alternative sites.
- 5.15 The parties submitted that this barrier was addressed by the regulatory regime established by Ofcom, under which Arqiva and NGW were each required to provide NA that was reasonably requested on fair, reasonable, non-discriminatory (FRND) and cost-oriented terms, and to publish reference offers setting out terms on which access would be granted (see paragraph 2.7 and Appendix C). They further submitted that the difficulties experienced by VTC arose from the timing of the BBC procurement exercise, with its deadline for first-round bids on 15 December 2005, shortly before publication of the Reference Offers on 30 December 2005, and from the BBC's requirement that the supplier should bear the risk associated with the BBC's requirement for [redacted].
- 5.16 Whilst the timing was undoubtedly difficult from VTC's perspective, VTC told us that the lack of granularity in the television Reference Offers was such that, even if the

BBC's procurement exercise had occurred later, this would not have removed its difficulties. It said that the Reference Offers provided insufficient detail on what was available at each site, and on what terms, to enable any new entrant seeking to provide MTS/NA to establish precisely what might be required in order to deliver its proposed site access solutions and the likely costs. In this context we noted that VTC did not bid for the SDN and Digital 3&4 contracts, which were finalized later.

- 5.17 We also noted that the publication of the current Reference Offers does not mean that difficulties over timing will not arise in the future. The current Reference Offers were published on the basis of guidance from Ofcom in the context of DSO, and reflect the expected works and costs required for that programme based on accommodating the existing six television multiplexes. In the event of future competition for MTS/NA contracts arising from the creation of one or more additional television multiplexes, which require modified or additional work on the network infrastructure to enable them to broadcast, then a new reference offer would be required.
- 5.18 To help us assess the difficulties faced by entrants such as VTC, we examined the Arqiva and NGW television Reference Offers and the site access agreement(s) negotiated subsequently, under which Arqiva and NGW provide site access to each other.
- 5.19 The television Reference Offers provide aggregated prices for access to the networks of sites that may be required by PSBs and commercial multiplex operators respectively, including access to associated infrastructure that might be required by a typical provider of MTS/NA (see paragraph 2.4). They provide for negotiation between the NA provider and any MTS/NA supplier in relation to customer-specific requirements, on the basis of cost-oriented pricing.
- 5.20 The parties accepted that reference offers form the basis for site access agreements, and do not eliminate the need for negotiations on more specific contracts. The site access agreements subsequently negotiated between Arqiva and NGW contain more detailed provisions reflecting the particular circumstances of Arqiva and NGW, which as suppliers of MTS/NA each require NA on the half of the broadcast network operated by the other.
- 5.21 Against this background, we identified three factors which, in our judgement, inhibit the ability of new entrants to obtain access to sites and associated infrastructure on terms that do not place them at a disadvantage relative to NGW and Arqiva as integrated providers of sites and services.
- 5.22 First, Arqiva and NGW possess detailed knowledge of the sites (both through ownership of approximately half of the sites and through extensive previous use of the sites owned by the other) which is unavailable to new entrants. This information asymmetry places entrants at a disadvantage in bidding for contracts, for example, in devising optimal site access solutions detailing the way in which sites will be used.
- 5.23 Second, the reciprocity of Arqiva's and NGW's requirement for NA in relation to each other's sites provides a strong incentive to both parties to achieve a fair and equitable commercial resolution of site access issues. Arqiva and NGW have a history of reciprocal site access arrangements that enables them to assess the likely costs and risks of any new broadcasting proposal. This process is much more difficult for entrants, who will need to engage in detailed negotiations in relation to their specific requirements with Arqiva and NGW, who may at the same time be competitors.

- 5.24 Third, Arqiva and NGW enjoy synergies as providers of both MTS/NA and owners of broadcasting infrastructure which are not available to new entrants. Because different MTS/NA providers may utilize sites in different ways, an MTS/NA provider that also owns sites will have opportunities to utilize its own sites in ways that maximize their value, for example by optimizing the use of facilities such as cabins or services such as power usage. Similarly, there are opportunities to utilize the same maintenance field staff to maintain the transmission equipment and to maintain the shared equipment required to provide NA.
- 5.25 The parties told us that any synergies—for example, arising out of the utilization of maintenance staff—were modest, with little ability for distributing joint costs between MTS and NA, as confirmed by the report prepared by Scientific Generics for Ofcom (see paragraph 7.105).
- 5.26 We concluded that, notwithstanding the regulatory arrangements governing NA, the factors discussed above place new entrants at a disadvantage relative to Arqiva and NGW as integrated providers of sites and services, and the significance of these factors is enhanced by the importance of NA costs. We were told that these costs represent 70 to 80 per cent of the price of post-DSO MTS/NA contracts for television. We concluded that the combination of a lack of transparency and the need to negotiate with Arqiva and NGW as potential competitors, against a background in which Arqiva and NGW have in place mutual access arrangements reflecting their mutual dependence, and the benefits of integration, represents a considerable hurdle to new entry.

The importance of reputation

- 5.27 All the broadcasters emphasized to us the indispensability of avoiding interruptions in broadcast transmission, and hence the importance of a track record in providing MTS/NA services. In order to demonstrate its reputation, a provider needs to be able to show that it has both the skills and experience in relation to television broadcasting, so as to ensure the very high levels of service needed, across the full range of services required (eg including specialized monitoring). As previously noted, the BBC told us that it would have considerable reservations in awarding a contract to a provider with little experience in the relevant market (see paragraph 5.11).

Incumbency advantages and the significance of sunk costs

- 5.28 Both the parties and third parties noted incumbency advantages. Not only does the scale and complexity of the transmission business give existing providers a very strong position, but sunk costs in acquiring and installing necessary MTS equipment may be particularly significant in negotiations over contract renewal.
- 5.29 We noted that, as integrated providers, Arqiva and NGW start from the advantage of a regulated rate of return on a substantial capital investment in the sites,²² the cost of access to which constitutes a substantial proportion of the costs of providing MTS/NA for television post-DSO.

The need for a national field force and the inability to enter on a small scale

- 5.30 VTC and the broadcasters noted the importance of a national field force with appropriate skills, and the inability of new entrants to enter on a small scale and then grow, given the need to provide MTS/NA across the UK.

²²See Appendix C.

- 5.31 The parties did not dispute the need for a national field force which, they told us, had in the past required specialist skills. However, they noted that, as transmission technology becomes increasingly modularized and similar to other communications equipment, suitably skilled field forces in monitoring and field maintenance could be supplied by companies such as Ericsson and Telent (formerly part of Marconi) with additional support services being provided by equipment manufacturers. They told us that, absent the merger, [REDACTED]. Arqiva did not anticipate that it would be significantly reducing its field force post-DSO (as it would be taking on the BBC work) but anticipated cost savings of approximately [REDACTED] per cent as it replaced engineers with lower-paid technicians.
- 5.32 As previously noted (see paragraph 2.4) MTS involves a package of services including network design, procurement and installation of transmitters, network monitoring, quality assurance of the signal and maintenance of the transmission equipment. We regarded the difficulties faced by third party entrants to include not only a need for what the parties described as ‘first-line’ response engineers but for all those personnel required to ensure the continuity and quality of broadcast transmissions, including those involved in manning the control centres and responsible for ensuring rapid and effective responses to faults.²³ While we accepted that there may be some force in the parties’ observations in relation to the changing skills required to maintain transmission equipment, we were not convinced that similar trends apply to the full range of tasks necessary to ensure broadcast quality. In view of the overwhelming importance broadcasters attach to quality assurance, we would expect them to be unwilling to contract with an MTS/NA provider that was unable to prove that it had in place personnel and systems capable of delivering the highest standards in this area, including strength in depth to deal with unusual challenges.

Informed customers/buyer power

- 5.33 The parties submitted that the existence of large sophisticated customers such as the BBC served as a competitive constraint.
- 5.34 Buyer power can only provide a competitive constraint where buyers have the ability to obtain the services from an alternative supplier (including sponsored entry), to self supply or to substitute an alternative service. We have considered barriers to entry above. Although the parties suggested that self supply or sponsored entry might be possible, none of the broadcasters from whom we took evidence regarded these options as a realistic possibility. We judged that these options would face many of the same constraints which inhibit entry, such that broadcasters would not be likely to switch to self supply or sponsored entry in response to a small but significant reduction in value for money from their existing supplier.

Conclusions on competition in the provision of MTS/NA for television

- 5.35 On the basis of paragraphs 5.1 to 5.34 we concluded that, prior to the merger, Arqiva and NGW were the only currently active providers of national MTS/NA to UK television broadcasters and, notwithstanding the incumbency advantages, each party exercised a competitive constraint upon the other. We concluded that barriers to entry mean that the threat of entry is insufficient to prevent the merged entity from exercising market power. We did not believe that the presence of large informed customers (buyer power) provides a sufficient constraint in relation to the supply of

²³For a description of what is involved in monitoring broadcast quality see: *All present and correct?—Monitoring the BBC’s multi-channel digital TV services*, BBC R&D White Paper WHP017; January 2002.

MTS/NA to television broadcasters to prevent the exercise of market power, due to the lack of alternatives available to purchasers of MTS/NA for television.

Provision of MTS/NA for radio broadcasting

- 5.36 We noted in paragraph 2.11 that the broadcasting supply chain for radio is similar to that for television. We also noted in paragraph 4.25 that, although there are differences in requirements for MTS/NA between radio stations, the relevant product market includes MTS/NA to radio broadcasters of national stations, regional/metropolitan stations, and those local stations broadcasting from regulated sites and for which MTS/NA is purchased centrally. However, we also noted that the boundary of that market is fuzzy. Rather than attempt to divide the available data to reflect this boundary, in assessing market shares and examining data on competition for contracts we examined the data for national radio stations, for regional/metropolitan stations and for local radio broadcasting as a whole. Since third party providers of MTS/NA to radio broadcasters and self provision of MTS/NA are found predominantly among the smaller local stations, this will underestimate the market shares of Arqiva and NGW in the segment of the market with which we are most concerned, and overestimate the role of other providers.
- 5.37 The parties submitted that, given that differences in the value of MTS are likely to be highly correlated with the number of transmitters, market shares based on the number of transmitters are a proxy for market shares of the value of transmission services. This proxy appeared to us to be plausible, although information was not available to enable us independently to assess the degree of correlation. Therefore, we assessed market shares on this basis and, as a cross-check, on the basis of the number of radio licences for which MTS/NA services were provided, in order to see how far estimated market shares appear sensitive to the way in which they are assessed.²⁴ Table 8 presents estimates of the parties' shares for MTS/NA for national radio broadcasting on both bases. Table 9 presents similar estimates of the parties' shares for MTS/NA to regional/metropolitan radio broadcasting. Table 10 presents similar estimates of the parties' shares for MTS/NA to local radio broadcasting. Although the parties' market shares are lower for local radio broadcasting than for regional/metropolitan radio broadcasting, and lower for regional/metropolitan broadcasting than for national radio broadcasting, their combined shares exceed 85 per cent in each case, even using the measure that gives the lowest figure. On the basis of the parties' market shares and recent combined income from the provision of MTS/NA for radio we estimated the size of the market at approximately £85 to £95 million a year.

TABLE 8 **Parties' shares of MTS for national radio broadcasting, 2007**

	<i>per cent</i>	
	<i>Licences (volume)</i>	<i>Transmitters (value)</i>
NGW	()
Arqiva		
Other		

Source: The parties.

²⁴The tables include both BBC and commercial radio stations. As noted in paragraph 5.39, the BBC contracts for services for its national, regional and local analogue stations as a bundle.

TABLE 9 Parties' shares of MTS for regional/metropolitan radio broadcasting

	<i>per cent</i>	
	<i>Licences (volume)</i>	<i>Transmitters (value)</i>
NGW	(✂)
Arqiva		
Other		

Source: The parties.

TABLE 10 Parties' shares of MTS for local radio broadcasting

	<i>per cent</i>	
	<i>Licences (volume)</i>	<i>Transmitters (value)</i>
NGW	(✂)
Arqiva		
Self-provide		
Other		

Source: The parties.

Pre-merger competition

5.38 The parties submitted that the market for MTS/NA for radio was a 'bidding market', where significant contracts were tendered for a relatively long duration on an infrequent basis, such that market shares were not a reliable indicator of market power. While it is clearly the case that this is a market characterized by long contracts in which opportunities for competition between providers arise relatively infrequently, the very high market shares nevertheless indicate that Arqiva and NGW have, between them, won the overwhelming majority of contracts that have been put out to tender. We considered available data on competition pre-merger and the extent to which the presence or potential presence of other bidders may have exerted competitive pressure on the bidding behaviour of the parties in paragraphs 5.39 to 5.49.²⁵

5.39 The parties provided evidence showing that there has been little opportunity for competition in relation to BBC services. They noted that, at the time of privatization and the sale of its transmission services arm by the BBC, NGW was awarded contracts to provide MTS/NA to:

- all AM transmission services to [✂];
- all FM transmission services to a date not earlier than [✂] or later than [✂]; and
- in relation to the first phase of the BBC national DAB multiplex to [✂], subsequently extended to [✂].

5.40 The parties also noted that, since the privatization of NGW, two new MTS/NA contracts for radio had been put out to tender, for the BBC DAB national multiplex

²⁵We also noted that the parties' characterization of the market as a 'bidding market' does not accord with their description of this market as one in which there is, in practice, little or no competition where existing contracts come up for renewal, due to the overwhelming advantages of incumbency (see paragraph 5.57).

Phase 2 [redacted] and for the BBC DAB national multiplex Phase 3 (April 2007 to April 2023, with a BBC option to extend for up to four years). [redacted]

5.41 The parties provided a list of contracts awarded for national radio MTS/NA and information on the extent to which these contracts had been the subject of competition on renewal. This evidence showed that, excluding the BBC contracts discussed above, one out of ten new contracts (the contract for the 4 Digital national DAB multiplex) and two out of three renewal contracts (Virgin AM in 2001 and TalkSport in 1999) had been subject to competition. The parties said that 4 Digital did not conduct a formal tender process, Arqiva had not competed for the Virgin AM contract, and Arqiva had only submitted a proposal for the TalkSport contract ‘in order to maintain relations with the Wireless Group’ and ‘with no expectation that it would be awarded the contract’.

5.42 The parties provided details of contracts for MTS/NA for commercial radio broadcasting over the period 1999 to 2007, which are summarized in Tables 11 to 13. Table 11 shows that, of the [redacted] contested contracts won by NGW in the period, Arqiva bid in all, but other competing bidders (ADRT and VTC) were present in only five cases. Table 12 shows that, of the [redacted] contracts that NGW bid for but lost in the period 2000 to 2007, Arqiva bid in 21, while other competing bidders were present in only eight cases. Table 13 shows that, of the 28 contested contracts that Arqiva won in the period 2004 to 2007, NGW was almost three times more often a competing bidder than was any other company.

TABLE 11 Contested MTS contracts won by NGW, 1999 to 2007

	Total	Competing bidders
AM*	[redacted]	[redacted]
FM	[redacted]	[redacted]
DAB	[redacted]	[redacted]

Source: Parties and CC analysis.

*Includes hybrid AM/FM.

Note: AM numbers include two national contracts.

TABLE 12 NGW MTS contracts lost, 2000 to 2007

	Total	[redacted]	[redacted]	[redacted]	[redacted]*
AM†	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
FM	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DAB	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: Parties and CC analysis.

*In one of the two cases, there were three other counter-bidders: SBS, [redacted] and ADRT.

†Includes hybrid AM/FM.

Note: DAB numbers include a contract for extension of coverage on an existing licence.

TABLE 13 Contested MTS contracts won by Arqiva, 2004 to 2007

	Total	[X]	[X]	Competing bidders		[X]	[X]*
				[X]	[X]		
AM†	(
FM				X			
DAB							
)						

Source: parties and CC analysis.

*In one of the three cases, there were three other counter-bidders:[X], self provision and other.

†Includes hybrid AM/FM.

- 5.43 The BBC told us that, at present, no company other than the parties had established itself as a credible bidder in relation to its contracts. Virgin and GCap Media told us that they did not consider any company other than the parties to be a credible bidder in relation to national commercial radio. RadioCentre, GCap Media and Emap told us that they did not consider any company other than the parties to be a credible bidder for provision of MTS/NA to large local commercial radio stations.²⁶
- 5.44 This data showed the high market shares and the strong position of Arqiva and NGW in competition for MTS/NA services in the relevant market pre-merger.
- 5.45 The data also indicated that Arqiva and NGW were active competitors, which was confirmed by several third parties. The BBC told us that the parties had competed vigorously in its procurement of MTS/NA for Phase 3 DAB, and that it had received significant benefits from competition between the parties. GCap Media submitted that the historic ability of its Classic FM and other stations to exercise choice between the parties had been relatively limited, owing principally to the parties' former separate roles in providing transmission services to, respectively, the BBC and commercial radio and television. However, in recent years these distinctions had become blurred and now GCap considered that the parties were genuine competitors to one another and, with a number of contracts approaching renewal, this would be the first time a genuinely competitive tender for large-scale contracts could be undertaken. GCap also provided examples where it believed that competition between the parties had driven down prices to its subsidiaries. Emap submitted examples in which it used the participation of the merging parties in a tender process to drive down the price and/or ensure a better solution or an improvement in the levels of service to be provided. RadioCentre told us that those of its members that had tendered significant contracts for MTS/NA for new multiplexes or licensed stations in the last few years had discovered that there was increasing competition between NGW and Arqiva, and that in some instances its members had been able to play off the parties against each other to negotiate better terms for a bundle of services. However, it also told us that other members, for whom recent negotiations had focused on existing contracts, had reported that competition between Arqiva and NGW was limited.
- 5.46 The parties disputed several of the cases put to us. They also provided data showing that:
- only [X] out of [X] contracts for renewal of MTS/NA for sub-national FM radio between 2004 and 2007 were put out to tender (11 per cent);
 - [X] out of [X] contracts for MTS/NA for new FM licences for sub-national radio between 2002 to 2007 were put out to tender (68 per cent);

²⁶RadioCentre is an industry body representing over 300 UK commercial radio stations.

- only [X] out of [X] contracts for MTS/NA for new DAB sub-national multiplex licences between 2002 and 2007 were put out to tender (21 per cent); and
- at the sub-national level, only in relation to the share of supply of MTS/NA to regional/metropolitan AM services and regional/metropolitan DAB services does NGW have a greater than 10 per cent share of supply.

5.47 The parties noted the strong incumbency advantages to existing MTS/NA providers arising from the difference between the useful life of transmitters and the typical length of contracts. On the basis of this consideration and the above data, the parties argued that any pricing constraint which was exercised by NGW was indirect and relatively weak and that, in certain market segments, such as local AM and FM and regional/metropolitan AM, other providers of MTS/NA to commercial radio stations had exercised a greater competitive constraint on Arqiva than NGW.

5.48 RadioCentre told us that for new business there was effective competition between Arqiva and NGW, with NGW winning some business from new entrants into independent local radio. RadioCentre also told us that there were historical reasons for the strong presence of Arqiva and the very small presence of NGW in the supply of MTS/NA to local radio stations. When independent local radio started, the only transmission provider was the IBA, whose network was later hived off as Nat Trans and eventually acquired by Macquarie and rebranded as Arqiva (see paragraph 2.17). Because of the length of MTS/NA contracts and the difficulties involved in transferring ownership of equipment and NA rights at sites, it has historically been easier simply to retain the incumbent supplier.

5.49 Further information on the disputed cases and the parties' submissions is in Appendix E. While there remains some dispute between the parties and third parties over the extent of competition for MTS/NA contracts for radio, and the importance of competition between Arqiva and NGW in lowering prices and/or improving services, on the basis of all the information presented to us we judged that Arqiva and NGW played a central role in the provision of MTS/NA for radio broadcasting, and that prior to the merger they provided the major part of the competition that occurred.

Entry

5.50 We considered to what extent the barriers to entry for MTS/NA to television broadcasters also apply in the market for provision of MTS/NA to radio broadcasters.

Access to sites and infrastructure

5.51 As noted in paragraph 4.14, analogue radio broadcast licences are less prescriptive than those for television, specifying areas to be covered but not specific sites to be used, so barriers to entry are lower. However, broadcast sites operated by Arqiva and NGW form the backbone on which much radio broadcasting is built and, as discussed in paragraphs 4.24, a significant number of sub-national radio stations, like the national stations, rely upon the use of regulated sites operated by Arqiva and NGW.

5.52 In view of the costs involved, it is unlikely that a third party provider would be able to compete for contracts for the provision of MTS/NA to radio stations broadcasting under existing licences on the basis of significantly changing the sites from which the station is currently broadcast. Even in the case of new licences, it appears that proposals for MTS/NA that use no NGW or Arqiva sites are unlikely to provide a satisfactory broadcasting solution for other than small, very local, stations.

- 5.53 Therefore, in practice, in the market for MTS/NA to radio with which we are concerned, any inability of third party providers to obtain access to Arqiva and NGW sites on terms that do not place them at a disadvantage relative to Arqiva and NGW as integrated providers of sites and services remains a barrier to entry.
- 5.54 The Reference Offers for radio are less specific than those for television. For example, they contain no quoted prices but require Arqiva and NGW to provide quotes to purchasers of NA on the basis of a listing of the sites to which the purchaser wishes to obtain access. Due to the requirement for access to each other's sites, Arqiva and NGW must also negotiate with each other as necessary. However, when they do so, the negotiations are conducted from a position of insight into appropriate NA costs and with mutual interdependence (see earlier discussion of relevant barriers to entry in paragraphs 5.21 to 5.26). Although, in most cases, the number of sites required by a radio MTS/NA provider will be smaller than for a television MTS/NA provider, potential new third party suppliers of MTS/NA will still face barriers arising from the need to engage in detailed negotiations with Arqiva and NGW in relation to their specific requirements.
- 5.55 Similar issues to those that arise in the case of television apply to radio in relation to knowledge of sites and synergies.

The importance of reputation

- 5.56 As in the case of television, the major radio broadcasters emphasized to us the importance to them of avoiding interruptions in broadcast transmission, and hence the importance of reputation in providing MTS/NA services. Whilst there are more currently active providers of MTS/NA to radio,²⁷ and therefore more companies that have track records in this area, at least on a small scale, the need for an established reputation still appears to provide a barrier to entry or expansion into the market with which we are concerned, even by companies already providing services to small local radio stations.

Incumbency advantages and the significance of sunk costs

- 5.57 Incumbency advantages in relation to MTS/NA to radio were noted both by the parties and by third parties. Indeed, the parties submitted that these advantages were so significant that, in the case of most radio contracts that might come up for renewal, Arqiva and NGW would not be effective competitors where the other was the incumbent. As in the case of television, incumbency advantages and the significance of sunk costs constitute a barrier to entry.

The need for a national field force and the inability to enter on a small scale

- 5.58 Radio stations typically broadcast from far fewer sites than television, leading to a much smaller scale of MTS/NA. Nevertheless, commercial radio providers have similar requirements in terms of ensuring broadcast quality and, where the broadcast sites are geographically spread, suppliers of MTS/NA will need a suitably geographically extensive field force. This requirement, together with a need to operate on a sufficient scale, can provide a barrier to entry.
- 5.59 The parties noted that there are several companies that provide MTS/NA for radio, and submitted data showing that Arqiva provided MTS/NA to 167 of the 191 sub-national analogue radio stations operated by the seven largest radio groups

²⁷As noted in paragraph 5.42, Arqiva, ADRT and VT bid for certain radio contracts won by NGW between 1999 and 2007. The parties also mentioned Radica, Alice Soundtech, and TX Techniques.

measured by number of stations;²⁸ NGW provided MTS/NA in the case of [X]; and third parties for a further six. The parties told us that one of the third party providers, Radica, was a leading supplier of broadcast transmission systems and services and in a position to provide services on a national scale. The parties submitted that the outsourcing of network management and maintenance was an established trend in the telecommunications sector.

- 5.60 In contrast, the two largest commercial radio groups told us that they did not regard any suppliers of MTS/NA other than Arqiva and NGW as able to meet their needs. We noted that Radica is a small company formed in 1996 with only £112,000 of capital employed (total assets less current liabilities) as at March 2006 and nine staff listed on its website. Of the 13 radio stations identified by the parties as obtaining MTS from Radica, all were small.²⁹
- 5.61 The requirement for very high levels of assurance regarding quality and continuity of the broadcast signal discussed in relation to television (see paragraph 5.27), although potentially less compelling in the case of some radio stations, appeared to be a major requirement for the BBC and the largest commercial radio groups. Possession of skilled personnel and systems, including monitoring and control systems and the ability to deliver field services of high quality to tight response times, with proven ability to achieve the standards required and resilience in terms of strength in depth to deal with unusual challenges, is of major importance in the market for radio MTS/NA with which we are concerned. While it is certainly possible that, in the future, more radio stations will own their own transmission equipment and contract with MTS/NA providers on a basis that will enable them to move to outsourced arrangements more akin to those in the telecoms sector, we could not be confident that this model will become sufficiently widespread within a timescale relevant to our inquiry to rely upon it.
- 5.62 We judged that, taken together, the evidence shows that, while the scale of the field force required in the case of radio is smaller than in the case of television, and there may be greater scope for entry into MTS/NA provision on a small scale with a view to subsequent expansion, there remain significant barriers to establishing the sort of monitoring, control and maintenance systems necessary to compete effectively with Arqiva and NGW in the provision of MTS/NA to the BBC and to national, regional/metropolitan and the larger local commercial radio broadcasting groups. We did not regard the limited number of examples of self provision or provision by third parties as evidence demonstrating that they or the threat of entry or expansion will provide a sufficient competitive constraint on Arqiva and NGW to prevent the exercise of market power post-merger.

Buyer power

- 5.63 As discussed in paragraph 5.34, buyer power can provide a competitive constraint only where buyers have the ability to obtain the services from an alternative supplier (including sponsored entry), to self supply or to substitute an alternative service. We have considered barriers to entry above. The parties suggested that self supply or sponsored entry might be possible, and submitted that 43 local radio stations self supply, of which they named 34. We noted, however, that of the 34 identified, the largest (MFM) had listening figures of only 668,000 hours per week compared with an average of 1,358,000 hours per week for all sub-national commercial radio

²⁸GCap, Emap, Local Radio Company, UTV, Tindle Radio, Guardian Media Group and UKRD. The remaining 12 stations self-supplied.

²⁹The largest—Kingdom FM (Fife, Kirkcaldy, Dunfermline and Glenrothes)—having listening hours of 574,000 per week based on listening figures from Rajar.

stations, and only five had listening figures of more than 300,000 hours per week.³⁰ The larger commercial radio groups from which we took evidence did not regard either self supply or sponsored entry as a realistic possibility in relation to the market with which we are concerned, and we judged that these options face many of the same constraints that inhibit entry.

Conclusions on competition in the provision of MTS/NA for radio

5.64 On the basis of paragraphs 5.36 to 5.63 we concluded that, prior to the merger, Arqiva and NGW were the most significant providers of MTS/NA to UK radio broadcasters, with a combined market share exceeding 85 per cent and, notwithstanding the incumbency advantages, each party exercised a competitive constraint upon the other. We concluded that barriers to entry mean that the threat of entry or expansion in the market is insufficient to prevent the merged entity from exercising market power, and we were not convinced that buyer power provides a sufficient constraint in relation to the supply of MTS/NA in the relevant radio market to prevent the exercise of market power.

Provision of site access and ancillary services to MNOs and wireless communication service providers

Market shares

5.65 The parties estimated that the total of all wireless site rental revenue is approximately £873 million a year, of which £536 million is for cellular access (by MNOs). They estimated their combined shares on a revenue basis to be [X] per cent of the wider market and [X] per cent of the cellular market, based on Arqiva data from 2007 and NGW data from its 2006/07 financial year.

5.66 We estimated the parties' share of points of presence ('base stations') for wireless telecommunication transmission to be 12.9 per cent for NGW and 5.8 per cent for Arqiva, giving a combined market share of 18.7 per cent, as shown in Table 14.³¹

TABLE 14 Parties' national shares of points of presence for mobile telecommunications transmission

	<i>Number</i>	<i>%</i>
NGW	(X)	12.9
Arqiva		5.8
Others		81.3
Total		

Source: The parties, OFT, third parties and CC estimates.

5.67 Since any particular site may have several points of presence (eg because of site sharing), shares of sites may differ from shares of points of presence, and on that

³⁰Source: Rajar.

³¹Based on 2007 data, except for two data points used to estimate NGW's share of points of presence. The parties provided estimates of their shares of site access for MNOs based on their revenue from site rental to the MNOs and their estimate of the total size of the MNO site rental market, assuming an average national price per site rental. A third party confirmed that there were 'going rates' for sites consistent with the parties' assumption. From this it is possible to estimate the parties' number of points of presence they sell to each MNO. These estimates are consistent with the number of points of presence that the MNOs told us they purchased from the parties, with the exception of one case. The parties argued that Arqiva's share was lower than that we had estimated, based on its estimate that its rate per point of presence was higher than that implied by our figures, giving NGW and Arqiva a combined market share of [X] per cent. The figures were sufficiently low, and the estimates sufficiently close, for us to conclude that we did not need to resolve these differences.

basis NGW's estimated market share is 8.9 per cent and Arqiva's estimated market share is 5.0 per cent, giving a combined market share of 13.9 per cent, as shown in Table 15.³²

TABLE 15 Parties' national shares of sites for mobile telecommunications transmission

	Number	%
NGW	(✂)	8.9
Arqiva		5.0
Others		86.1
Total		

Source: The parties, OFT, third parties and CC estimates.

5.68 On the basis of shares of sites, NGW's share of sites for other wireless communication transmission is 2.9 per cent and Arqiva's is 4.4 per cent, giving a combined share of 7.3 per cent, as shown in Table 16.³³

TABLE 16 Parties' national shares of sites for other wireless communication transmission

	Number	%
NGW	(✂)	2.9
Arqiva		4.4
Others		92.7
Total		

Source: The parties, OFT, third parties and CC estimates.

5.69 On the basis of the information set out in paragraphs 5.65 to 5.67, we estimated that Arqiva's and NGW's combined market shares in the provision of site access to MNOs is in the range 14 to 19 per cent, depending on how it is measured, with a smaller share of sites for other wireless communication service providers.

5.70 The parties estimated that their combined market share in ancillary services was less than 10 per cent. While we were not able to verify this figure, we saw no reason to dispute it given that the parties' provision of ancillary services is limited to sites they operate, and they do not provide all ancillary services to those sites. In this regard, a third party told us that the market for ancillary services generally was quite competitive, and that any competitive advantage conferred on integrated providers, such as the parties, from bundling site access and ancillary services could also usually be obtained by partnering.

Competitive assessment

5.71 Some MNOs and wireless communication service providers suggested that the parties' market shares might underestimate their competitive strength. It was put to us that in any particular location there might be few existing suitable structures and planning authorities might be reluctant to consent to the construction of new masts, particularly since the introduction of planning guidance (PPG8)³⁴ creating a presumption against the granting of planning permission for new sites where existing

³²Based on estimated shares for active sites; ie excluding sites where further sharing will not be possible.

³³Based on estimated shares for active sites. Data limitations prevented us estimating the parties' shares of points of presence for other wireless communications transmission.

³⁴Planning Policy Guidance Note 8: Telecommunications—August 2001. See:

<http://www.communities.gov.uk/publications/planningandbuilding/ppg8>.

sites were available. We were told that these factors placed the owners of existing structures in a strong commercial position and were provided with instances where the unwillingness of planning authorities to consider alternatives in locations where Arqiva or NGW had an existing mast had caused difficulties for MNOs.

5.72 This evidence suggests that tight planning restrictions can strengthen the negotiating position of owners of existing masts and cautions against over-reliance on market shares aggregated across wide geographical areas, even though, for the reasons set out in paragraph 4.42, the markets for sites and ancillary services may generally operate on a UK-wide basis. However, for the purpose of our inquiry the key question was not whether such instances of local difficulty can occur, but the extent to which these situations will be further adversely affected by the merger. As previously noted, from the evidence we received it appears to be rare, in practice, for there to be a choice between an Arqiva site and an NGW site, and a lack of third party alternatives (see paragraph 4.43). However, the MNOs and wireless communication services providers from whom we took evidence were divided on whether the merger would lead to a loss of competition between Arqiva and NGW. We consider this issue further when discussing the impact of the merger in Section 8.

5.73 Additional reasons suggested to us as to why the parties' market shares may underestimate their competitive strength were that:

- the population of masts and structures available for use is less than estimated in Tables 15 and 16;
- not all masts and structures are equal, with higher structures in key topographical locations offering good line of sight being particularly valuable for certain applications such as those involving microwave links; and
- the parties' large portfolios of masts and sites enable them to provide a 'one stop shop', facilitating a more rapid roll-out of new networks and avoiding the costs and delays associated with building networks site by site, which may be particularly important in terms of future technological developments.

Population of shareable sites

5.74 Some third parties told us that, historically, MNOs had been reluctant to share their sites. One party told us that sites that had been shared before were more likely to be shared again, such that Arqiva's and NGW's shares of masts and structures available for third party use was considerably greater than their share of all sites.

5.75 The parties told us that the selection of sites was primarily on the basis of the coverage each site afforded, rather than the identity of the site operator or whether it had been previously shared. Once a requirement had been identified, there would typically be several options to satisfy it, including site sharing with an MNO, site sharing with a commercial operator of sites such as Arqiva or NGW, by agreement with the landlord of an existing structure, or self-build. They disputed the claim that a site that had been shared before was more likely to be shared again.

5.76 When assessing these arguments we noted that all the MNOs now subscribe to a voluntary agreement to share existing sites where available. We also noted that some MNOs appear to be reassessing their approach to site assets, with Orange and Vodafone having recently announced a site sharing agreement and T-mobile and Hutchison 3G having announced their intention to enter into one.

'Line of sight' advantages

- 5.77 Several third parties suggested that the 'line of sight' advantages enjoyed by the parties' high masts made them the preferred choice for some applications (eg applications involving microwave links used for backhaul and for some wireless applications). Two parties suggested that, whilst there might be alternative options in some parts of the country, there were some hilly areas such as in South Wales where there was a lack of suitable alternatives to the parties' high masts for these applications. One party noted that microwave backhaul offered lower costs for high-capacity requirements than fixed-line alternatives.
- 5.78 The parties told us that backhaul could be achieved through microwave or fixed telecoms lines provided by BT (which owns a network of 250 high sites specifically designed as a national microwave backbone) or by other telecoms operators, and several other entities' own structures with good line of sight characteristics, including water utilities.
- 5.79 When assessing these arguments we noted that some MNOs use cable for backhaul, and that there may be options for trading off using more microwave links utilizing smaller structures, for which charges will typically be lower, against the use of higher structures such as those owned by the parties, for which charges may be higher.

Portfolio advantages

- 5.80 The parties' ability to provide a 'one stop shop', enabling a more rapid roll-out of networks and avoiding the costs and delays associated with building networks site by site, was seen by some MNOs as an important source of competitive strength that differentiated their sites from those of other providers, particularly against a background in which it was increasingly difficult to get planning permission for a new mast where one already exists in the locality.
- 5.81 However, two third parties told us that whilst the parties' sites were disproportionately important in the past, as MNOs needed to roll-out their networks quickly to achieve coverage targets, this was unlikely to be as important a competitive advantage going forward. They submitted that, in the future, the main requirement for most MNOs would be for smaller numbers of additional sites to 'fill in' gaps, either where there was no or poor coverage or where growth in traffic volume was reducing the area that could be covered from a single site (network reinforcement). In such cases there was likely to be a limited choice of sites and we heard differing views as to whether the parties' sites would be particularly well placed, although we were told that it could be advantageous to deal with a single supplier of multiple sites in these circumstances.
- 5.82 One third party considered that, following Ofcom's auction of spectrum around 2.6 GHz in 2008, demand for multi-site offers such as those of the parties could increase, for example, if the spectrum were to be used to launch a new high-performance mobile network. The emergence over the next few years of other technologies such as mobile television and WiMAX could also lead to increased demand for access to sites and masts which, if there was a need for a rapid roll-out of a network by someone lacking access to the MNO networks, might place third party providers of multi-site networks in a strong position.
- 5.83 The parties accepted that the availability of new spectrum could create site sharing opportunities, but told us that future technologies such as WiMAX were likely to be rolled out initially in urban areas and would utilize smaller and less obtrusive systems

than existing cellular systems, requiring sites that did not represent the core of either NGW's or Arqiva's portfolios.

- 5.84 We discuss the release of spectrum and its future uses in paragraphs 7.34 to 7.36, and the requirements of mobile television in paragraphs 7.60 to 7.65.

Conclusions on competition in the provision of site access and ancillary services

- 5.85 Taking all these considerations together, we noted that some features of the parties' portfolios of sites may be a source of competitive strength beyond that apparent from their market shares, although the position is not always clear cut. Some of these features, such as a greater availability for sharing than for sites belonging to the MNOs, appeared to be of declining importance. Other features, such as the scale of their portfolios, which facilitates the rapid roll-out of new networks, may currently be of less importance than in the past, but could become increasingly significant in the future in the event of the introduction of new technologies that require networks to which the parties' portfolios of sites are well suited. We took these factors into account when considering the implications of the merger for competition in the provision of site access and ancillary services in Section 8.

6. Counterfactual

- 6.1 In deciding whether the merger is likely to give rise to an SLC we needed to compare the competitive situation that we expected following the merger with that which would be expected to prevail without the merger (the counterfactual).
- 6.2 Prior to the merger, NGW was a profitable business. In its last financial year, it generated revenues of over £300 million and EBITDA of £[REDACTED]. The business was growing, in both revenues and profitability, and was forecasting continued growth for the foreseeable future.
- 6.3 In paragraph 3.1, we explained how National Grid, the ultimate parent company of NGW, considered both the demerger of NGW and the sale of NGW, and initially ran both processes in parallel. Within its sale process, National Grid received [REDACTED] final-round bids for the business, [REDACTED] of which were over £[REDACTED], notwithstanding that Arqiva was the only bidder which appeared to be able to benefit from significant synergy savings.
- 6.4 We reviewed both the value and outline terms of the final bids National Grid received for NGW. If Arqiva had not concluded the acquisition of NGW, we believed the most likely outcome was that National Grid's management would have sought to conclude a transaction with the next highest bidder, which offered £[REDACTED], ie £[REDACTED] less than Arqiva. This second highest offer was very likely to have been attractive to National Grid's management, being higher than any of the indicative offers that were received in February, and which were sufficient at that time for National Grid to continue with a sale process in preference to a demerger of the business, and also within the range of expected values for the business estimated by NGW management in February 2007. The terms offered by this bidder were [REDACTED]. The bid was also highly credible, coming from [REDACTED].
- 6.5 This bidder did not outline its detailed strategy for the business, had it been successful, but it did state that it was supportive of the management team's strategy for the business. Therefore, there is no reason to believe that, if it had acquired NGW, the business operations of the company or the markets in which NGW operated would have significantly changed.

6.6 In considering the NGW business absent the merger, we recognized that Arqiva has recently won the contracts to provide MTS/NA services to the BBC, SDN and Digital 3&4 for post-DSO DTT and that, as a result, NGW's only existing MTS/NA post-DSO DTT customer is its own multiplex operations (for commercial multiplexes C and D, being delivered across 81 sites). Therefore, we recognized that, absent the merger, the scale of the MTS/NA businesses of Arqiva and NGW over time would have become quite different to the pre-merger situation.

Conclusions on the counterfactual

6.7 On the basis of this evidence, we concluded that the counterfactual, against which the competitive effects of the merger should be compared, is the acquisition of NGW by another entity which would have continued to operate the business of NGW in a similar way to prior to the merger. As a result, we believed that competition between Arqiva and NGW would have continued in a similar way to the situation absent the merger.

7. Effects of the merger on the provision of MTS/NA

Horizontal effects on the provision of MTS/NA to television broadcasters

7.1 On the basis of our findings in paragraph 5.35, against the counterfactual in paragraph 6.7, we concluded that the merger results in a loss of rivalry between Arqiva and NGW, leading to a position in which there is only one currently active provider of MTS/NA to television broadcasters, in a market in which barriers to entry mean that the threat of entry is insufficient to prevent the merged entity from exercising market power. We did not believe that the presence of large informed customers (buyer power) provides a sufficient constraint in relation to the supply of MTS/NA to television broadcasters to prevent the exercise of market power.

7.2 The parties submitted that there would be little or no actual loss of competition, due to the absence of future opportunities for competition in the supply of MTS/NA to television broadcasters within a timescale relevant to our inquiry.

7.3 In order to investigate the likely impact of the merger, we considered the effects that might arise from the loss of rivalry, first in relation to existing customers³⁵ and second in relation to opportunities for future competition.

Effect on existing customers

7.4 In competitive markets the existence of rivals benefits existing customers even where their contract precludes them from benefiting from price competition while this contract remains in place. These benefits arise:

- through pressure on suppliers to act efficiently and keep costs down, maintain and improve quality of service and innovate, for fear that those customers will place future business with alternative suppliers and/or transfer existing business when the opportunity to do so next arises, including possibilities for terminating existing contracts early; and

³⁵We focused on the provision of post-DSO MTS/NA. Although, to some extent, similar considerations apply to current contracts for provision of MTS/NA for analogue television and low-power DTT, we did not consider them in detail as these have only a short period to run.

- through the ability to compare existing suppliers with competitors and press existing suppliers to improve service standards or introduce innovations where they fall behind current industry best practice.

7.5 In the market for television MTS/NA, the ability of customers to place future business with alternative suppliers and/or transfer existing business is limited by the presence of long-term contracts and the limited possibilities for individual customers to favour alternative suppliers for some years (see paragraphs 7.29 to 7.65 for discussion of opportunities for future competition).³⁶ In this section we focus on four ways in which the loss of rivalry between Arqiva and NGW might nevertheless harm existing customers through its impact on:

- the pressure to keep costs down and/or maintain and improve service quality;
- the possibility of termination, or threat of termination (for example, in the event of loss of service quality);
- the negotiation of variations to existing contracts; and
- the ability to compare providers.

Pressure to keep costs down and/or maintain and improve service quality

7.6 Ofcom submitted that it was not aware of any occasion on which the existence of a potential alternative supplier had led to improved service quality for a customer under an existing contract, due to strong incumbency effects. However, Ofcom noted that there were wider innovation benefits from the existence of two rival suppliers.

7.7 Channel 4 submitted that Digital 3&4's post-DSO contract with Arqiva provided sufficient incentive for Arqiva to maintain its high service levels, regardless of the presence of a competitor.

7.8 However, the BBC submitted that it had consistently received higher levels of service under its existing analogue and low-power DTT MTS/NA contracts (with NGW), than was specified in those contracts, and attributed this higher service quality to the presence of a competitor (Arqiva). The BBC explained NGW's significant outperformance as being due to its hope of retaining and winning new work in the future, either in the same market or another market. The BBC expected that the presence of a competitor (NGW) would have had the same constraining effect in the future (on Arqiva), under its post-DSO contract.

7.9 Under the contracts for the provision of MTS/NA to [redacted] the price is cost reflective.³⁷ A substantial proportion of these costs relates to the provision of NA.³⁸ Prior to the merger, in order to supply MTS/NA to television broadcasters, Arqiva and NGW each needed to obtain NA from the other. The costs of doing so were passed though to the customer (subject to the operations of 'gain share/pain share' provisions in relation to changes), as were the equivalent (internal) costs in relation to the MTS/NA providers' own sites. As previously described, for contracts governed by the SMP decision, the price of obtaining NA to television broadcast sites under the 'core offer' is specified within the relevant Reference Offer (which price will be adjusted after 2014 to reflect

³⁶We noted that the importance of a few large long-term contracts increases the potential long-term damage to a supplier of loss of customer goodwill.

³⁷The BBC contract with Arqiva for the provision of MTS/NA post-DSO is [redacted] (see Appendix C).

³⁸The proportion will vary between contracts but, as previously noted, can be 70 to 80 per cent in the case of contracts for the provision of MTS/NA post-DSO.

costs actually incurred in the previous years following a ‘true up’). The price reflects customer-specific requirements, charged on the basis of cost-oriented prices.

- 7.10 Under these arrangements, both Arqiva and NGW had some incentive to challenge the costs of the other, and regularly did so.³⁹ For Arqiva the incentive was twofold, in order to keep its customers happy by achieving cost reductions and in order to retain a proportion of any savings. For NGW there was a direct incentive to reduce the costs of providing MTS/NA to its own multiplex operations. Both Arqiva and NGW had the ability to challenge each other in this way since they were, as they have acknowledged, each other’s most informed customers. A consequence of the merger is the loss of the two separate companies to challenge each other’s costs, with the consequence that prices to broadcasters might be higher.
- 7.11 The parties told us that agreements with [X] and [X] contain safeguard mechanisms for agreeing changes to the terms or scope of the service, including costs, such that there is no scope for Arqiva unilaterally to increase prices. Further, they submitted that the incentives to challenge each other’s NA costs depend upon the terms of the contractual arrangements, and provided examples to show that, when account was taken of the way in which NA costs are split between the six multiplexes and the operation of the gain-share provisions within the contracts, it could be demonstrated that:
- prior to the merger, the strongest incentive to drive down costs of NA to sites had been on the provider of those sites; and
 - following the merger, the merged entity would have a greater incentive to reduce NA costs because, previously, savings had to be shared between Arqiva and NGW.
- 7.12 We noted that the examples provided by the parties related only to costs that are split between the multiplexes. We noted as well that the incentives, as described, depend upon the effective operation of contractual provisions regarding the distribution of any savings. We observed that, even in situations where long-term contracts exist, and even if contracts have been drafted to cover most foreseeable eventualities, the presence of a competitor provides some degree of constraint on the incumbent provider when changes to the terms or scope of the service are required. Measures which offer transparency to customers, and even the opportunity to audit the provider’s costs, give some comfort to customers, but we did not believe that they replace the constraining effect of a potential competitor. Even though a long-term contract may create a strong incumbency advantage, the threat of losing the customer to a competitor under a similar long-term contract in the future, or the threat of losing other business to the competitor, possibly in an adjacent market, typically does constrain the incumbent provider’s behaviour. Therefore, we remained concerned that the loss of rivalry between Arqiva and NGW may lead to higher charges or lower service quality under existing contracts.

Termination

- 7.13 The ability to terminate contracts, or to threaten to terminate contracts, provides an ultimate safeguard against poor performance by an existing provider, but is only credible where there is an alternative provider to whom the customer might turn, or where the customer can do without the service. We considered the impact of the loss of rivalry between Arqiva and NGW on the scope for termination.

³⁹We noted that a report prepared for Ofcom by Scientific Generics observes that Arqiva and NGW operate different business models such that there are significant differences in the cost bases reflected in their Reference Offers.

- 7.14 The parties told us that there was no realistic prospect that the existing agreements would have been terminated, or that Arqiva would allow its performance to decline to the point that termination might be considered, given:
- the structure of the contracts in terms of liquidated damages and other financial penalties;
 - the extraordinary events required under the contracts for termination to be possible; and
 - the impact of termination on the reputation of Arqiva and the wider Macquarie group.
- 7.15 We accepted that the terms of the contracts make early termination extremely unlikely and therefore limit the extent to which existing customers might be able to use termination or the threat of termination in practice. However, we noted that such threats carry significantly less weight in the absence of an alternative supplier.

Future negotiations

- 7.16 We considered the impact of the loss of rivalry on future negotiations over variations to or under existing contracts. We considered the possibility of events occurring which would require changes to existing services, and concluded that there is a range of possible future events which could occur. We noted that some of these changes could be anticipated to occur in the near future on the basis of changes to the market since the post-DSO DTT contracts were agreed, such as a change in the modulation standard from DVB-T to DVB-T2 (at least in relation to some multiplexes), which has become much more likely following Ofcom's proposal to reorganize the existing multiplexes to accommodate HDTV on DTT (see paragraph 7.41).
- 7.17 In response to our provisional findings the parties submitted that no SLC would arise in relation to the operation of existing contracts. The parties submitted that, although a number of technical changes might occur in the future, its contracts with the BBC, Digital 3&4 and SDN specifically contemplated a number of changes during the terms of the respective agreements and included sufficient change control provisions that no variation to the contracts would be required. The parties also said that the BBC contract was a [X] contract, and the contracts with Digital 3&4 and with SDN required any [X] to be agreed with the customer, so there was little scope for new negotiation. They submitted that Arqiva had exclusive rights to provide the existing services set out in the agreements, and any variations to those services for the duration of the contracts. Any variation under the agreements would be subject to detailed change control procedures, which included provisions for customer consent, agreed pricing principles and the possibility of expert determination in the event a variation could not be agreed. The parties submitted that these provisions were sufficiently tightly drafted that any future negotiations would be unaffected by the presence or absence of an alternative provider.
- 7.18 Channel 4 agreed with the parties, submitting that Digital 3&4's post-DSO contract with Arqiva included provisions which governed the principles under which any contract variation would be priced, and ensured that Digital 3&4 was adequately protected regardless of the presence of a competitor.
- 7.19 SDN told us that it considered that any contract variations would be dealt with within the terms of its post-DSO DTT contract with Arqiva. Following the publication of our provisional findings, SDN told us that, if we were to remedy the loss of competition with a set of behavioural undertakings, it would place substantial reliance on the

power of an independent adjudicator to determine disputes in relation to the saving that would flow to it under its contract with Arqiva.

- 7.20 The BBC submitted that contract variations had arisen in the past and would, in all probability, continue to arise in the future. The BBC provided an example of where a significant variation to an existing contract was required in the past, citing its 1997 analogue television contract, which did not predict the current process of DSO. Further, the BBC submitted that the presence of a competitor (Arqiva) provided a significant constraint on the incumbent provider (NGW) in the negotiation of the required variation. The BBC provided another example of where it considered that a significant variation to an existing contract was likely to be required in the near future, citing the introduction of HDTV to the post-DSO DTT platform, which was not envisaged at the time of agreeing its contract with Arqiva for post-DSO services. The BBC submitted that it believed the lack of a credible competitor (NGW) would weaken its position in negotiating the required changes with Arqiva. Indeed, the BBC said that it was highly concerned that, over the more than 20 year life of its post-DSO contract with Arqiva, many significant variations might be required, such as the entire switchover to HDTV from SDTV, and it was impossible for such a long-term contract to foresee all possible eventualities.
- 7.21 We recognized that the presence of wide-ranging change control provisions in existing post-DSO contracts provides a way of handling the negotiations which are required by technological or other changes to the services provided. However, while the change control procedures include agreed pricing principles, they involve a process of negotiation between the parties to arrive at the terms of a variation, and in some cases include procedures for dispute resolution. This process implies a range of possible outcomes. In this process, it appeared to us that there is very likely to be an information asymmetry between Arqiva, as the provider of the services, and the customer, both in the detailed specification of the new services and in the cost. We did not doubt that Arqiva's plans and costs would be questioned and would need to be justified but, in the absence of a comparator and a competitive threat, the information asymmetry is likely to favour Arqiva. As such, we did not believe that the contracts will effectively constrain the incumbent provider to the same extent as they would in the presence of a credible alternative provider of those services.
- 7.22 Further, we did not believe that these change control provisions can be expected to deal with all possible developments which may occur over the life of the contracts. We accepted that the current post-DSO contracts were negotiated as long-term commitments and that they have tried to anticipate future developments, but we did not believe that contracts running into the 2030s can be expected to have anticipated all possible developments. Given the long-term nature of the contracts and the rapid changes in technology and in the use of the broadcasting spectrum which are likely to occur in the future, we believed that it is highly likely that contract variations will be required, which have not been contemplated by Arqiva or its customers.
- 7.23 As explained in paragraph 6.6, we recognized that, absent the merger, NGW's MTS/NA business would have become smaller, following Arqiva winning the BBC, SDN and Digital 3&4 MTS/NA post-DSO DTT contracts. However, NGW would have continued to own approximately half the network of broadcast sites in the UK, from which it would have provided NA, and would have continued to provide MTS/NA services to its own two multiplexes, its existing analogue television and low-power DTT customers and its radio customers. As such, we believed that it would have provided an effective competitive threat and would have been an effective comparator for costs and specifications in regard to contract variations. Therefore, we believed that the loss of rivalry between Arqiva and NGW as a result of the merger could prove harmful to existing customers. We believed that it would remove

the threat of the customer migrating to an alternative provider in the future and remove the comparative basis by which the customer can assess the specification and reasonableness of the variation, as well as the associated change in price.

Comparison with other providers

- 7.24 In addition to the loss of a comparator for assessing the terms of a contract variation, we considered whether the loss of a customer's ability to compare the performance of Arqiva and NGW might reduce pressure on Arqiva to improve its performance and to innovate. We noted that, even though a supplier has long-term contracts with its customers, a supplier who faces a competitor can be encouraged to maintain its levels of service quality and innovation to a similar high standard, which might not be the case if it is a monopolist.
- 7.25 The parties drew attention to provisions within the MTS/NA contracts specifying the levels of service to be provided and the scale of financial penalties should these not be achieved. As regards innovation, they submitted that the speed in innovation in broadcasting technology was relatively slow and that, as Arqiva and NGW did not manufacture or develop equipment, their role was limited to upgrading equipment supplied by third party manufacturers. They drew attention to provisions in the MTS/NA contracts providing for reviews of technology and technology upgrades.
- 7.26 Comparisons of performance can provide a useful tool to customers in certain circumstances. For example, provisions specifying minimum required levels of service provide no pressure to improve, and the ability to point to what is being achieved by other suppliers, or innovations introduced by them, may help broadcasters bring pressure to bear on complacent suppliers. Although early termination and switching may not be realistic in this kind of situation, even a complacent supplier will usually wish to keep its customer happy so as to win other business that may be available in the same or another market, and to retain the customer at the end of the contract term. While relevant comparisons with organizations other than NGW or Arqiva and contractual requirements for reviews of technology may be useful in some cases, they do not in our view remove the benefits of comparison between the two direct competitors, Arqiva and NGW.

Conclusions on effects of the merger on existing customers

- 7.27 We noted the importance within this market of detailed contractual provisions to provide incentives to reduce costs, maintain service quality and promote innovation. However, the expectation of future competition is often a complementary and sometimes stronger disciplining factor than contractual obligations and penalties, which cannot be expected to have anticipated all possible developments.
- 7.28 On the basis of these considerations, we concluded that the loss of rivalry between Arqiva and NGW is likely to have an adverse impact on existing customers, although the extent of the harm in practice will depend upon future developments and, as such, is difficult to assess precisely.

Opportunities for future competition

- 7.29 We next considered the impact of the merger on future opportunities for competition:
- arising at the end of existing contracts; and
 - arising from the planned release of spectrum.

Expiry of existing contracts

- 7.30 The parties submitted that no opportunities for future competition between Arqiva and NGW in relation to existing MTS/NA contracts would arise until the expiry of the contracts for high-power DTT in the 2030s, and that this date was too far ahead to enable any assessment to be made of the impact of the merger on competition at that time.
- 7.31 We considered the effects of the merger on existing contracts, including the possibility of early termination, in paragraphs 7.4 to 7.28. When considering the effects of a merger we need to take a view on the time frame relevant to our inquiry, taking account of the characteristics of the market including asset lives, the length of contracts, frequency of opportunities for competition and the level of uncertainty as to how competition will change over time. In the present case these considerations point to a need to consider a longer time frame than would typically be the case. We noted that the merger reduces the number of providers of MTS/NA to television broadcasters from two to one, under circumstances where our analysis of barriers to entry gives us no expectation that credible alternative providers will emerge within the foreseeable future.
- 7.32 Against this view, we recognized that the further into the future we look the greater the uncertainties, including the possibility of technological or other developments that could radically affect DTT broadcasting.
- 7.33 We concluded that the competitive conditions that might apply in the 2030s are insufficiently certain for us to reach a view on the impact of the merger by the time the contracts for high-power DTT become due for renewal.

Opportunities arising from the planned release of spectrum

- 7.34 New opportunities for competition in the supply of MTS/NA to television broadcasters could arise from the use of released spectrum. Therefore, we considered Ofcom's plans for the future release of spectrum and the uses to which this spectrum might be put.
- 7.35 Ofcom is planning on releasing several pieces of spectrum over the next few years, as shown in Table 17. The availability of significant parts of this spectrum arises from DSO, and Ofcom has been consulting on the terms of its release under a Digital Dividend Review (DDR). On 13 December 2007, subsequent to the publication of our provisional findings, Ofcom published a statement on its approach to DDR.⁴⁰ However, Ofcom confirmed to us that its statement was consistent with the evidence which it had submitted previously to us. In the statement, Ofcom confirmed its view that the majority of the released spectrum should be auctioned on a service- and technology-neutral basis⁴¹ and restated its intention to package the spectrum in a way that enables the widest possible range of uses, including additional national DTT multiplexes and new mobile services. Ofcom has clarified its intention with regard to interleaved spectrum, stating that some will be set aside for Programme Making and Special Events (PMSE) purposes, while some will be packaged on a geographic basis suitable for sub-national DTT multiplexes. Further information on the DDR and the spectrum included in the review is in Appendix F.

⁴⁰*Digital Dividend Review: A statement on our approach to awarding the digital dividend, 13 December 2007.* See: <http://www.ofcom.org.uk/consult/condocs/ddr/statement/>.

⁴¹With the exception of Channel 69 and a package of interleaved spectrum, which will be retained for Programme Making and Special Events purposes.

TABLE 17 **Planned release of spectrum**

<i>Spectrum to be released</i>	<i>Timing of release</i>	<i>Possible uses</i>
L-Band	Early 2008	Mobile multimedia services, such as mobile television; Digital radio; Wireless broadband, such as WiMAX.
2.6 GHz and related bands	Mid-2008	Mobile multimedia services, such as mobile television; Advanced mobile services, such as 3G and its evolutions; Wireless broadband, such as WiMax.
Channel 36	First half of 2009	Mobile television; An additional DTT multiplex running on a single frequency.
Cleared spectrum resulting from DSO	First half of 2009	Mobile television; Advanced mobile services, such as 3G and its evolutions; Wireless broadband, such as WiMax; Additional DTT multiplexes.
Interleaved spectrum	Second half of 2008/from end of 2008	Package to be retained for PMSE; Other packages suitable for sub-national television to be auctioned.
Channel 69	Second half 2008	To be retained for PMSE uses.

Source: CC, based on information from Ofcom.

7.36 As can be seen from Table 17, a number of potential uses could be accommodated within more than one part of the released spectrum. It is likely that some spectrum released under the earlier auctions of L-Band and spectrum around 2.6 GHz will be used for broadband uses and advanced mobile uses, reducing demand for use of spectrum available as a result of the DDR for those purposes. In total, the amount of spectrum planned for release is substantial, with cleared spectrum and channel 36 alone amounting to 15 channels of 8 MHz each. Each of the potential uses would require a different amount of spectrum. For example, each additional DTT multiplex might require four to five channels (or one if it used channel 36 as a single frequency channel) and mobile television could require one to four channels.

7.37 Of the various uses listed in Table 17, three potential television broadcast uses might require MTS/NA services and could give rise to future opportunities for competition between Arqiva and NGW:

- additional national DTT multiplexes;
- sub-national DTT; and
- mobile television.

7.38 We consider these in turn.

Additional national DTT multiplexes

7.39 One potential use of cleared spectrum from the DDR is for a seventh (and possibly eighth) national DTT multiplex, which might broadcast either HDTV or SDTV. As any new national DTT multiplex would require MTS/NA, it would provide opportunities for competition between Arqiva and NGW.

- 7.40 Ofcom told us that additional DTT services were a plausible, high-value use of some of the DDR spectrum and that it considered that the creation of a seventh national DTT multiplex was one of the likely outcomes of the auction of cleared spectrum.⁴²
- 7.41 Evidence from the parties indicated that, prior to July 2007, both Arqiva and NGW had been planning on the basis that a seventh national DTT multiplex would result from the release of spectrum following the DDR. However, Arqiva told us that statements by Ofcom in July and August 2007, suggesting that it was pursuing proposals for accommodating HDTV on the existing multiplexes, and discussions with broadcasters, had led Arqiva to reappraise its earlier position. Arqiva had recently concluded that a seventh multiplex was now less likely in view of the proposals from Ofcom to enable up to four HDTV channels to be carried on one of the six existing national DTT multiplexes, and that there was now a high level of uncertainty regarding the outcome of the DDR.
- 7.42 To help us reach a judgement on the likelihood of further national DTT multiplexes using cleared spectrum, we:
- (a) reviewed work undertaken on the DDR within Ofcom following receipt of responses to its earlier consultation, including technical work on the development of its proposals for enabling broadcasting of some HDTV on the existing six DTT multiplexes, additional consumer research and its reconsideration of earlier economic studies;
 - (b) considered evidence submitted by the parties on their consideration of this issue, including consultancy studies on value-maximizing strategies for the NGW DTT multiplexes; and
 - (c) approached the BBC, ITV/SDN, Channel 4/Digital 3&4, Five, BSkyB and Virgin for evidence on their approach to DDR and relevant strategic planning.
- 7.43 In our view, Ofcom's assessment of the possible use of the DDR spectrum and its statement on the likelihood of a seventh national DTT multiplex were consistent with the evidence it had gathered and which we reviewed. Ofcom's more recent December 2007 statement expressed the same views. Indeed, Ofcom has repeated to us that, in its view, a seventh national DTT multiplex remained one of the likely outcomes of the auction of cleared spectrum.
- 7.44 Only one of the parties from whom we received evidence had attempted to value the spectrum based on estimates of cash flow and other assumptions. Neither Ofcom, nor any of the other parties from whom we received evidence, has yet undertaken studies of the economic prospects for a seventh national DTT multiplex based on projected costs and income. However, we saw evidence of demand for more SDTV channels, both in responses from the broadcasters and in a study prepared for [redacted].
- 7.45 We also noted the significant sums of money that had been offered by broadcasters that had recently sought but failed to obtain space on the NGW multiplexes.
- 7.46 We noted that spectrum for a seventh national DTT multiplex would not need to be purchased by the broadcasters themselves or other existing communications industry players, but might be purchased as an investment asset to be leased for use by others.

⁴²Ofcom confirmed this view to us following its proposals of 21 November. See Ofcom, *The Future of Digital Terrestrial Television—Enabling new services for viewers*, 21 November 2007.

7.47 We considered several propositions that might be argued to reduce the likelihood of a seventh multiplex:

- (a) HDTV was the main driver for a seventh multiplex, which is now removed by Ofcom's proposal for accommodating HDTV on the existing six multiplexes;
- (b) a shift to 64QAM and other changes will make available enough additional capacity on the existing multiplexes to accommodate about eight to ten further SDTV channels by 2014;
- (c) if the HDTV service succeeds, then all the other five SDTV multiplexes would likely move to the same technology (DVB-T2/MPEG-4), offering huge amounts of competing bandwidth in the crucial time while any seventh multiplex waits to launch, which could result in as many as 80 channels in total on Freeview;
- (d) if HDTV fails, then the general view within the broadcasting industry is that the Freeview platform will struggle to compete with satellite and cable which already offer HDTV;
- (e) the complexities of the auction process add uncertainty to the ability of any bidder to secure the optimal spectrum for a seventh multiplex; and
- (f) Ofcom has proposed an 18-year licence term for the DDR spectrum (instead of 25 years), which, combined with delays to the launch of high-power DTT and the high likelihood of licence extensions not being available, means that an operator of a seventh multiplex would have to plan on receiving only 12 to 13 years of revenues (starting in 2013/14) to get payback.

7.48 With respect to these arguments, we noted:

- (a) Although HDTV was one driver for a seventh national DTT multiplex, it was not assessed by Ofcom to be the highest-value DTT use of cleared spectrum.⁴³ We also noted that it is not yet certain that the Ofcom proposals for accommodating HDTV on the existing six DTT multiplexes will be implemented, given the range of challenges to be overcome. We noted that some commentators believe that HDTV may become a technology with widespread appeal, leading to broadcasters concluding that they need to broadcast more of their output on HDTV than could be accommodated on the existing multiplexes under the Ofcom proposal.
- (b) Although moving to 64QAM would release additional capacity on the DTT platform, Ofcom's proposal for accommodating HDTV on the existing national DTT multiplexes utilizes much of this additional capacity and could involve displacement of some services to multiplexes C and D (the NGW multiplexes), limiting the ability of those multiplexes to accommodate additional SDTV channels.
- (c) Moving all the existing national DTT multiplexes to new compression and/or broadcasting standards (MPEG-4 and DVB-T2) is not part of Ofcom's DDR proposal, and would require consent from Ofcom. Though Ofcom's December 2007 DDR statement noted that it had become more confident about the opportunity to introduce HDTV services to one multiplex on the current DTT platform, it did not commit to any plan to migrate all the multiplexes to the new technology. Since such a change would render current set-top boxes unable to

⁴³See *Ofcom Digital Dividend Review*, 19 December 2006, pp53 and 54, Figure 4.4, and *Ofcom Digital Dividend Review Market Research 2007*.

receive DTT, it would have a significant impact on viewers, particularly if it were to occur shortly after DSO. As a result, we believed that, if such a change happens, it is likely to be some time in the future after DSO. This view was accepted by NGW, and we noted that the proposal put to Ofcom by the broadcasters as part of the lobbying for the gifting of spectrum for a seventh national DTT multiplex envisaged that such a change might occur 12 years after DSO.

- (d) We heard no evidence to suggest that HDTV will fail on DTT. If Ofcom's current proposal for broadcasting HDTV on one of the existing national DTT multiplexes were found to be flawed, then we believed it was likely that alternatives would be proposed.
- (e) Although it is speculative to draw conclusions ahead of confirmation of the form of the auction, Ofcom repeated in its December 2007 statement its commitment to package the cleared spectrum so as to ensure the widest possible range of uses, including additional DTT multiplexes (national and sub-national) and mobile television. Ofcom continues to believe that a seventh multiplex is one of the likely outcomes of the auction process.
- (f) Ofcom has stated that the duration of the licence is to allow it to review the terms and conditions of the licence. Whilst Ofcom reserves the right to revoke the licence at that time if it determines that the licence is not being appropriately used, it has indicated that this decision would not be taken lightly. In addition, the time frame for the licence will affect all bidders irrespective of planned use, and participants can be expected to factor this time frame into the price they are prepared to pay at auction.

7.49 On the basis of information from the parties, the broadcasters and Ofcom, including its recent December 2007 statement on the DDR and its recent proposals for accommodating HDTV on the existing multiplexes, we continued to believe that it is more likely than not that some of the spectrum being released will be used to create a seventh national DTT multiplex requiring MTS/NA services. Further, we believed that, if Ofcom's proposals for accommodating HDTV on the existing multiplexes are not implemented, the likelihood of a seventh national DTT multiplex would increase.

Sub-national DTT

7.50 On the basis of its work on possible uses of the spectrum to be released, Ofcom told us that it was likely that some interleaved spectrum would be used for DTT, with a high likelihood of sub-national digital television covering large populations in particular areas (such as London or Greater Manchester) and a reasonable chance that interleaved spectrum in different areas would be used in a way that would enable the creation of a network capable of being received by over 60 per cent of households in the UK. Ofcom's December 2007 statement confirmed that it intended to auction geographic packages of interleaved spectrum suitable for local television, but would not limit it to that use. Ofcom has identified around 25 possible locations, based on main transmitter sites serving major towns, cities and local areas. One or two packages will be offered in each location, each of which should be sufficient for the operation of a DTT multiplex.⁴⁴

7.51 Ofcom's view was informed by technical studies on the use of interleaved spectrum for DTT which found that local television transmitters will, in general, need to be co-

⁴⁴Ofcom's December 2007 statement notes that it intends to consult further on proposals to auction a national or quasi-national package of interleaved spectrum comprising channels 61 and 62, which might be suitable for a number of applications including new mobile services or additional DTT multiplexes.

located with national multiplexes and would benefit from sharing the transmitting antennae with the national multiplexes to maximize coverage.⁴⁵ It was also informed by work carried out by Spectrum Strategy Consultants,⁴⁶ which undertook economic modelling of multiple scenarios and concluded that sub-national television broadcasting would be profitable under two of the eight core scenarios (using broadband, DTT, cable and satellite to reach metropolitan areas of 1 to 2.5 million people, with two different assumptions on content).

7.52 The parties told us that they were unconvinced by the business model for regional/metropolitan multiplexes. They regarded the economic modelling conducted for Ofcom by Spectrum Strategy Consultants in 2005 as over-optimistic, and submitted a consultancy report⁴⁷ which argued that:

- in 2015, television broadcasters will be operating in a more competitive environment as a result of the continuing erosion of viewing and revenues, with a shift to multi-channel viewing fragmenting audiences and sub-national television likely to face competition from broadband and mobile television;
- costs of programming will be higher than assumed, due to the need for high-quality local content; and
- assumed audience shares were over-optimistic.

7.53 While acknowledging that the main broadcast sites used by the existing DTT broadcasters were likely to be the optimum technical solution in any particular area, due to the technical benefits of co-siting and the planning of interleaved spectrum in packages based on these main transmitter sites, the parties further submitted that cost considerations might dictate use of other sites, and that the provision of MTS/NA was more likely to take the form of maintenance-only services with broadcasters procuring and financing the transmission equipment themselves than to follow the pattern for national DTT multiplexes.

7.54 Finally, the parties submitted that there were a number of serious hurdles to achieving a quasi-national multiplex from stitching together a patchwork of interleaved spectrum. These difficulties would arise from the auction process, with many cost and technical issues to be overcome, including the need for international clearance for the frequency assignments. The parties submitted that, as a result, a quasi-national multiplex was not a commercially credible strategy.

7.55 Guardian Media Group plc (GMG) told us that it had been a pioneer of local television in the UK, operating Channel M from Manchester since 2000⁴⁸ and was considering plans to roll out television stations in other cities broadcasting on interleaved spectrum. It provided us with an external consultancy study undertaken for GMG in early 2007 confirming the case for this strategy.

7.56 Whilst noting that local or regional television in the UK has not been particularly successful, and Channel M is currently loss making, we took the view that broadcasting digital television on interleaved spectrum to large populations is

⁴⁵See Ofcom, *Technical options for terrestrial local television services*; 13 February 2007. This can be viewed on the Ofcom website at http://www.ofcom.org.uk/radiocomms/ddr/documents/tech_tv/.

⁴⁶*The economics of digital local content*, published as Chapter 5 of Ofcom's report *Digital Local: options for the future of local video content and interactive services*; January 2006. This can be viewed on the Ofcom website at http://www.ofcom.org.uk/tv/psb_review/digital_local/.

⁴⁷*Comments on the 'Economics of local digital audiovisual and interactive service', a paper for Ofcom and DCMS, by Spectrum Strategy*; Phillipa Marks, 6 November 2007. This can be viewed on the CC website at: www.competition-commission.org.uk/inquiries/ref2007/macquarie/pdf/prov_findings_working_paper_1.pdf.

⁴⁸Channel M currently broadcasts in analogue under a Restricted Service Licence.

sufficiently different from current analogue broadcasting under Restricted Service Licences (RSL) that we could not rely on the latter to draw conclusions on the former, either in relation to broadcast sites and the provision of MTS/NA or in relation to financial viability. We noted the debate over the business case for sub-national television. However, we considered that what matters for our inquiry is not whether it is possible to be confident that sub-national digital television will be successful, but whether it is sufficiently likely that interleaved spectrum will be used for this purpose so as to create new opportunities for competition between Arqiva and NGW in the provision of MTS/NA. The evidence from GMG supported Ofcom's assessment, suggesting that such an outcome is likely.

- 7.57 We were not convinced by Arqiva's argument that MTS/NA to sub-national DTT would not be within the same market as MTS/NA for national DTT services. In our view, broadcasters of sub-national television utilizing Arqiva and NGW sites are likely to wish to procure MTS/NA on a similar basis to national DTT broadcasters, for similar reasons. We noted the parties' argument that they would not wish to bear the cost of capital expenditure required and amortize its recovery over the licence terms in view of their previous exposure to RSL customers going out of business. However, we believed that, in view of the disparity in coverage of RSL analogue stations and prospective digital stations using interleaved spectrum, the commercial experience of analogue stations is not a basis for planning going forward. We were not convinced that Arqiva and NGW would sustain this position if faced with an appropriately financed customer and if they were competing with each other to provide MTS/NA services.
- 7.58 Stitching together a quasi-national network would lead to the broadcaster requiring MTS/NA services on a scale akin to those of a seventh multiplex. We noted that, prior to the merger, NGW appeared more confident of the merits of this proposal than Arqiva. While recognizing that it would face challenges that could increase costs or affect its timing, we did not consider that Arqiva had demonstrated that this option should be ruled out.
- 7.59 On the basis of paragraphs 7.50 to 7.58 we concluded that the use of some interleaved spectrum for sub-national digital television, whether on a local basis or as a quasi-national network, appears a more likely outcome than not, and that in the absence of the merger this new business would have been likely to give rise to opportunities for competition between Arqiva and NGW in the provision of MTS/NA.

Mobile television

- 7.60 Currently available services delivering television to mobile handsets utilize 3G cellular networks to deliver an individual video stream to each user, which means that the greater the number of people who access the service the more demand this makes on the capacity of the network. To overcome this limitation, MNOs, television broadcasters and companies such as Arqiva and NGW are exploring possibilities for broadcast mobile television offering one-to-many services in the UK, using spectrum being released over the next few years. Several different technologies are being assessed for this purpose, which may have differing broadcast infrastructure requirements. Even for DVB-H,⁴⁹ alternative broadcast infrastructure solutions are possible: utilizing existing DTT sites, utilizing a DVB-H dedicated network which might be constructed primarily using sites used for mobile communications networks, or a hybrid infrastructure solution utilizing a mixture of the two, with the mix depending on factors such as whether broadcasters are aiming primarily to reach

⁴⁹Digital Video Broadcast for Handheld Devices, one of the possible technologies based on extension of the DVB-T standard used for DTT. See Appendix G.

urban audiences or are seeking to achieve more widespread availability. Further information on options for mobile television is presented in Appendix G.

- 7.61 We considered whether, if broadcast mobile television were to be successful in the UK, this new business would provide further opportunities for competition, which might be adversely affected by the loss of rivalry between Arqiva and NGW.
- 7.62 BSkyB submitted that it had concerns over the potential impact of the merger on broadcast mobile television. It submitted that use of Arqiva's and NGW's high towers would be central to developing a service providing wide area coverage, and that the infrastructure would operate in the same way as for broadcasting fixed DTT.
- 7.63 Arqiva and NGW told us that they would only be likely to become involved in the provision of mobile television in partnership with an MNO or a consortium including MNOs, whose involvement was essential because the development of mobile television depended upon the development and take up of suitable hand-held viewing devices that would also serve as the next generation of mobile phones. They provided a demonstration of the trial which Arqiva undertook in Oxford in partnership with an MNO, based on DVB-H transmitters mounted on modified masts used for mobile telephony. Papers supplied by the parties indicated that they had different strategies for mobile television. [REDACTED] The parties told us that they did not expect that mobile television would involve high-power transmission through shared antennae from their existing broadcast sites, and so would not require the type of MTS/NA services required for fixed DTT.
- 7.64 In the absence of any firm plans for the development of broadcast mobile infrastructure, any assessment is subject to a large number of uncertainties. On the basis of the papers submitted by the parties and by the third party, these uncertainties include:
- the likelihood that spectrum will be acquired for this purpose;
 - the technology(ies) that might be used;
 - the scale and location of deployment;
 - the nature of the infrastructure required; and
 - the need for MTS/NA.
- 7.65 We formed the view that whether or when broadcast mobile television will be introduced in the UK, on what scale, utilizing which technologies and on the basis of what deployment, remain sufficiently uncertain that we did not feel able to predict the outcome. Nor did we feel able to predict what will be required in terms of MTS/NA with sufficient confidence to form an expectation regarding any harm resulting from a loss of rivalry between Arqiva and NGW. If broadcast mobile television were to be widely deployed as a result of the release of further spectrum, it appears very possible that broadcast or other sites provided by Arqiva and/or NGW would be utilized as part of a deployment. However, we took the view that any impact of a loss of rivalry between Arqiva and NGW would be more likely to affect competition in access to sites rather than in MTS/NA, which we discuss in Section 8.

Conclusions on horizontal effects of the merger on the provision of MTS/NA to television broadcasters

- 7.66 On the basis of paragraphs 7.1 to 7.65, we concluded that the loss of rivalry between Arqiva and NGW can be expected to have an adverse impact, leading to:
- higher prices and/or lower service quality and reduced innovation in the provision of MTS/NA under existing contracts with television broadcasters; and
 - higher prices and/or lower service quality in the provision of MTS/NA to television broadcasters with respect to new national DTT or sub-national DTT contracts.

Horizontal effects on the provision of MTS/NA to radio broadcasters

- 7.67 On the basis of our findings in paragraph 5.64, against the counterfactual in paragraph 6.7, we concluded that the merger results in a loss of rivalry between Arqiva and NGW, leading to a position in which the merged entity has market power in a market in which neither the threat of entry, nor buyer power, is sufficient to prevent it from exercising that market power.
- 7.68 The parties submitted that, with only limited exceptions, competition between Arqiva and NGW in the provision of MTS/NA to radio customers had focused on new licences and, since no further national radio services and only very limited sub-national radio services were expected to be licensed within a relevant timescale, the effects of the loss of competition between Arqiva and NGW would be limited.
- 7.69 As for television, in order to investigate the likely impact of the merger, we considered the effects that might arise from the loss of rivalry, first in relation to existing customers, and second in relation to opportunities for future competition.

Effects on existing customers

- 7.70 There are more contracts for the provision of MTS/NA for radio than for television, and they are normally shorter in duration (typically matching the period of the licence, which may be for up to 12 years) and of substantially lower value (reflecting the smaller number of sites to which NA is required in order to provide MTS/NA to a radio service and lower capital costs for radio transmitters, among other factors). We did not analyse these contracts individually, but in general they appear to be less detailed and specific than those recently negotiated for high-power DTT (for example, we heard of no radio contracts containing gain-share provisions).
- 7.71 Some radio broadcasters expressed concern over the impact of the loss of rivalry between Arqiva and NGW on existing contracts. For example, GMG was concerned that service standards would fall, noting that in the past it had received levels of service going beyond those specified in its contracts, both in terms of broadcast availability and engineer response times, and had received other services not specifically required under the contract.⁵⁰ GMG submitted that the need to maintain a reputation of good service in expectation of future competition was often a stronger factor than contractual obligations. Other radio broadcasters submitted that they had also received higher levels of service than specified in their contracts, which was acknowledged by Arqiva.

⁵⁰GMG provided an example of the delivery of a back-up generator following an outage in order to return broadcast transmissions as quickly as possible, despite there being no contractual requirement for this service.

- 7.72 In relation to television, we noted the limitations of a reliance on contractual provisions in securing benefits that normally flow from competition and concluded that, notwithstanding the detailed provisions included in the contracts with broadcasters for the provision of MTS/NA for post-DSO DTT, the loss of rivalry between Arqiva and NGW would have some adverse impact on existing contracts (see paragraphs 7.16 to 7.23). The argument that contract provisions ensure that a loss of rivalry will have no effect on existing contracts carries even less weight in relation to radio. For example, as radio contracts do not have gain-share provisions, the arguments with regard to shared incentives do not apply.
- 7.73 On the basis of paragraphs 7.70 to 7.72, we concluded that the loss of rivalry between Arqiva and NGW will have an adverse impact on existing contracts for radio, and that existing contractual provisions will not operate in the same way as in television to mitigate this effect.

Opportunities for future competition

- 7.74 The parties identified four contracts for the provision of MTS/NA for national radio, and one for what they described as maintenance services and NA (where the broadcaster owns the transmitters) expected to come up for renewal in the next five years, for:⁵¹
- the BBC in respect of the provision of MTS/NA for DAB (31 sites) in [REDACTED];
 - the BBC in respect of the provision of MTS/NA for AM/FM in [REDACTED];
 - Virgin in respect of the provision of MTS/NA for Virgin AM in [REDACTED];
 - TalkSport in respect of the provision of MTS/NA in [REDACTED]; and
 - Classic FM in respect of the provision of maintenance services and NA prior to 2012.
- 7.75 In relation to these contracts, the parties submitted that:
- [REDACTED]⁵²
- 7.76 On the basis of this analysis, the parties submitted that the only opportunities arising from the expiry of existing contracts where the incumbent would not have such an advantage as to rule out effective competition between Arqiva and NGW were in relation to the [REDACTED] contract and [REDACTED], where the impact of any loss of rivalry between Arqiva and NGW would be limited because full MTS/NA was not required and other options were available. They noted that the outsourcing of maintenance occurred in Australia.
- 7.77 Assessment of the impact of a loss of rivalry between Arqiva and NGW on the expiry of existing contracts is complicated by:
- (a) uncertainties over the terms of future AM and FM radio licences, arising from the possibility of the spectrum used by AM and FM being made available for other purposes (in the event of AM and/or FM switch-off); and

⁵¹The parties did not consider renewals for MTS/NA to local radio on the basis that incumbency advantages preclude effective competition in these cases.

⁵²[REDACTED]

- (b) difficulty in assessing the strength of incumbency advantages that arise where the current contract holder owns existing transmission equipment which would enable it to provide MTS/NA under any new contract without incurring capital expenditures that would be required on the part of any alternative provider.
- 7.78 These difficulties are related, in that the likelihood and extent of incumbency advantages arising from the ownership of existing equipment depend upon the cost of replacement equipment, the remaining life of existing equipment and the expected period of new contracts.
- 7.79 However, in our judgement, the parties' assessment underestimates the likely impact of the loss of rivalry between Arqiva and NGW for the following reasons.
- 7.80 First, we noted that, while Ofcom is consulting on the possibility of AM and/or FM switch-off, it has not proposed either and we do not believe that it can reasonably be assumed that this will happen in the near future. While we recognized that there is some support in the commercial radio sector for an early switch-off of both AM and FM, we noted the BBC's view that while AM radio could be switched off in the relatively near future, FM services are likely to be sustained for a much longer time yet. Ofcom's recent statement on the future of radio⁵³ proposed that analogue radio licences, which are to be re-awarded in the short term, should be granted for five years or until 31 December 2015, whichever is the longer period. We noted that any possible timescale for a transition from analogue to digital will be considered by a cross-industry working group.⁵⁴ We recognized that switching off AM and/or FM radio raises so many difficult issues in terms of the potential impact on the public that the outcome of Ofcom's review of broadcasting could well be to retain AM and/or FM, or to defer any switch-off, sufficiently far into the future to allow for new licences of sufficient length to reduce or eliminate incumbency benefits arising from the ownership of transmitters.⁵⁵
- 7.81 The parties told us that transmitters have an asset life of approximately [X] years and noted that most of the NGW transmitters used on the Virgin AM and TalkSport contracts were [X]. On the basis of the data they provided, the incumbency advantages arising from ownership of these transmitters would decline sharply for contracts with an expiry date later than about 2020.
- 7.82 Second, our analysis of barriers to entry led us to believe that incumbency advantages arising from the ownership of transmitters is only one barrier, such that we could not be confident that the alternatives to the provision of MTS/NA by Arqiva or NGW identified by the parties in the case of [X] and [X] would be sufficient to make good the effects of the loss of rivalry between Arqiva and NGW.
- 7.83 Finally, we did not believe that the potential impact on competition following the expiry of existing contracts for the provision of MTS/NA to local radio, where this is part of the relevant radio market (ie where competitive conditions are akin to those for MTS/NA for national or regional/metropolitan stations—see market definition paragraphs 4.24 to 4.25), can be ignored.

⁵³*The Future of Radio—the next phase*, 22 November 2007 (see <http://www.ofcom.org.uk/consult/condocs/futureradio07>).

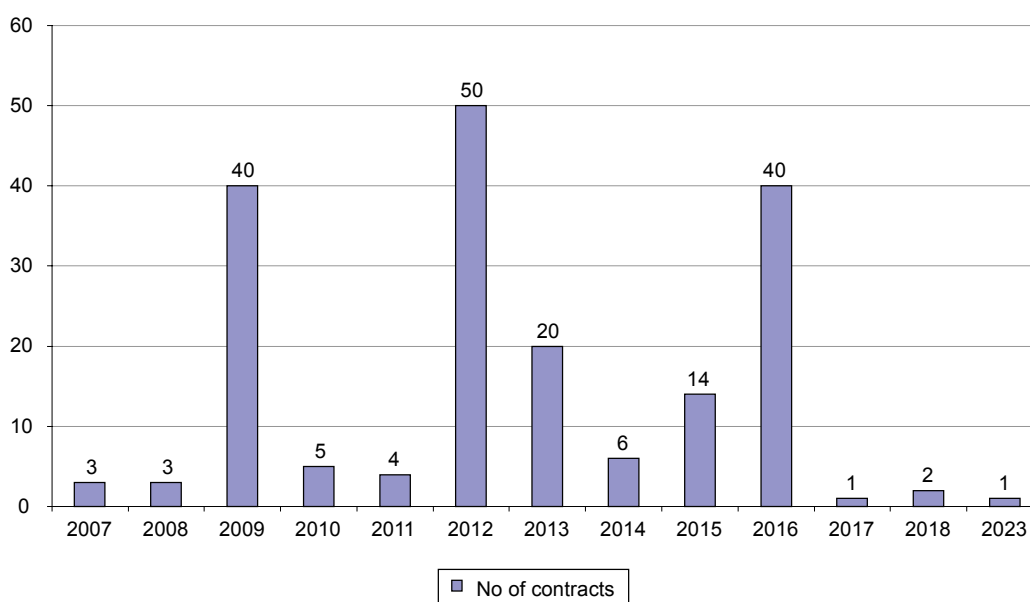
⁵⁴The Digital Radio Working Group involves the Government, Ofcom, broadcasters, manufacturers, consumers and other stakeholders.

⁵⁵In February 2008, GCap Media announced that it was selling its stake in Digital One, a national digital multiplex, to Arqiva. GCap announced that it wanted to focus on delivering its stations through FM and broadband, rather than DAB. We recognized that the evidence with regard to DAB is mixed, with the platform still having many supporters as well as its detractors. However, it seemed to us that, if anything, GCap's announcements make it less likely that the switch-off of analogue radio will occur in the near future.

- 7.84 RadioCentre told us that many contracts for the provision of MTS/NA to local radio stations would come up for renegotiation within the next few years. In order to obtain information from commercial radio stations, we requested that RadioCentre obtain information on our behalf from its members (which are 280 radio stations in total, representing over 99 per cent of all local commercial radio revenues) and received responses in relation to 177 radio stations from nine parent groups.⁵⁶ This request provided us with some additional data on the majority of sub-national radio stations, accounting for 88 per cent of total listening hours in commercial sub-national radio.
- 7.85 Analysis of the information we received revealed expiry dates as shown in Figure 3. This graph shows that there are 105 contracts due to expire by 2012 and another 26 within a further two years.⁵⁷

FIGURE 3

MTS/NA contract expiry dates



Source: CC data.

- 7.86 The parties provided an analysis of competition on renewals of MTS/NA contracts for sub-national radio between 2004 and 2007, showing that tender exercises were conducted in only [X] cases out of [X] (11 per cent), and told us that they were aware of only [X] cases in which stations had switched between Arqiva and NGW in recent years.⁵⁸ Whilst we accepted that incumbency benefits arising from the ownership of transmission equipment will limit the scope for effective rivalry between Arqiva and NGW in some cases, we interpreted this information as showing that they do not eliminate the possibility of competition. In the absence of the merger, the separate operation of Arqiva and NGW would have meant that radio broadcasters would have been able to use the threat of contracting with the other if faced with an unacceptable offer, provided that the incumbency advantages were not so overwhelming as to make the threat not credible.

⁵⁶The aggregated information can be viewed on the CC website at http://www.competition-commission.org.uk/inquiries/ref2007/macquarie/pdf/prov_findings_working_paper_2.pdf.

⁵⁷Since, we were told, negotiations for contracts typically begin up to 18 months before the contract expires, negotiations over contracts due to expire in 2014 would typically begin in 2012. All but two of these contracts are currently with Arqiva or NGW.

⁵⁸[X]

Opportunities arising from future licences

- 7.87 The parties told us that no new spectrum was expected to be made available for new national AM, FM or DAB multiplex licences; the BBC had no plans to launch new services; and few new licences for sub-national radio were likely to be awarded in the foreseeable future. Third parties identified new licences for which MTS/NA had yet to be contracted with an estimated value around £10 million a year. Of this new business, the largest element was the contract for the provision of MTS/NA to the second national commercial DAB multiplex awarded to 4 Digital (see paragraph 2.10), estimated to be worth around £[redacted] a year.
- 7.88 We were told by both Arqiva and by 4 Digital that the MTS/NA contract for its national commercial DAB multiplex would be awarded without further opportunity for NGW to compete.
- 7.89 Arqiva identified 14 local DAB multiplexes and four small FM stations for which MTS/NA contracts were still to be awarded. Of these potential opportunities, Arqiva told us that in three of the local DAB multiplexes NGW was a shareholder in the relevant multiplex licence, that Arqiva had preferred supplier status for a further one, that NGW had preferred supplier status for a further one, and that Arqiva was either a shareholder or had been involved in the application in the case of three of the four small FM stations. Taking these factors into account, Arqiva estimated that the total annual value of transmission services that might be subject to competition was £[redacted], of which it estimated £[redacted] might be for MTS/NA.
- 7.90 We did not find it surprising that short-term opportunities for competition in the provision of MTS/NA for radio are limited, given congestion in the spectrum used for radio and uncertainties over the long-term future of AM and FM. Although limited, we did not regard the opportunities discussed in paragraphs 7.87 to 7.89 as insignificant. Ahead of Ofcom's consideration of the future of AM and FM it is difficult to predict what further opportunities may arise in future years. However, we did not believe that it is credible that there will be both an absence of opportunities for future competition on expiry of existing contracts as a result of the switch-off of AM and/or FM, and an absence of new opportunities if additional spectrum becomes available as a result of AM and/or FM switch-off.

Conclusions on effects of loss of rivalry between Arqiva and NGW in relation to opportunities for future competition

- 7.91 Taking the above considerations together, we judged that the loss of rivalry between Arqiva and NGW is likely to lead to higher prices and/or poorer service in the provision of MTS/NA in relation to new radio licences and in at least some cases where existing contracts expire and are renegotiated.

Conclusions on horizontal effects of the merger on the provision of MTS/NA to radio broadcasters

- 7.92 On the basis of paragraphs 7.67 to 7.91, we concluded that the loss of rivalry between Arqiva and NGW can be expected to have an adverse impact, leading to:
- higher prices and/or lower service levels and reduced innovation in the provision of MTS/NA in the relevant radio market under existing contracts;
 - higher prices and/or lower service quality in the provision of MTS/NA in the relevant radio market in relation to new licences; and

- higher prices and/or lower service quality in the provision of MTS/NA in the relevant radio market in some cases where existing contracts expire and are renegotiated.

Vertical effects

7.93 As described in paragraph 2.26, Arqiva and NGW are present at different levels of the broadcasting supply chain. Therefore, we considered the possibility of vertical effects, arising from the impact on competition of the newly created common ownership of the broadcast transmission assets of Arqiva and NGW together with NGW's two DTT multiplex licences and Arqiva's multiplexing services. In particular, we considered the possibilities of:

- foreclosure in the market for multiplexing services;
- harm to competing television multiplex operators arising from a transfer of information between the merged entities' multiplexing services business and its multiplex operations, and/or delayed access to innovation; and
- distortion in the market for newly released spectrum and on future competition in the provision of capacity on DTT multiplexes, arising from the merged entity using its position in the provision of MTS/NA to television broadcasters to secure spectrum for an additional DTT multiplex or, conversely, through a loss of incentive for Arqiva to purchase spectrum in order to create one or more additional television multiplex.

Foreclosure in relation to multiplexing services

7.94 In relation to foreclosure, we considered whether competitive pressure exerted by competitors or potential competitors in relation to multiplexing services is significantly reduced as a result of the merger, for example due to not having access to the same economies of scale or efficiency advantages which may be available to Arqiva as a result of its vertical integration. In this regard, we noted demand for multiplexing services outside of DTT. We found no reason to believe that any potential loss of contracts for multiplexing services to the NGW DTT multiplexes would put Siemens⁵⁹ in a position in which it was unable to compete for future contracts, due to not having access to the same economies of scale. Nor did we find that the vertically integrated provision of multiplexing services with MTS/NA services offered advantages such that providers that are not vertically integrated are at a significant competitive disadvantage.

Competitive harm arising from information transfer and delayed access to innovation

7.95 SDN expressed concern over the possible transfer of commercially-sensitive information within Arqiva, which, following the merger, would be both a multiplexing service provider to multiplex operators, including SDN, and a multiplex operator itself (through its ownership of multiplexes C and D). SDN submitted that it had to share commercially-sensitive information with Arqiva, including information on new customers (channel launches), replacement of existing customers, the sublease of multiplex capacity to third parties, and the introduction of technical changes which might affect available capacity. In particular, SDN submitted that, in a market with only three commercial multiplexes, two of which would be owned post-merger by


⁵⁹Siemens IT Solutions and Services provides multiplexing services to the BBC and to NGW. See Appendix B.

Arqiva, SDN would be significantly disadvantaged if Arqiva could utilize in its multiplex operations the information it gained as a multiplexing service provider for SDN.

- 7.96 One broadcaster feared as well that a multiplexing service provider which was part of a company that was also a competing multiplex operator would have an incentive to delay access to innovations that might increase competition with the merged entity's own multiplex operations.
- 7.97 The parties submitted that information on the future operation of DTT multiplexes was provided to other multiplex operators through Digital Multiplex Operators Limited at least 30 days in advance, and information on future channel launches could also be obtained from published sources. In response to submissions from broadcasters that the information that could be obtained in this way was more limited and could only be obtained later, Arqiva provided us with a detailed review of all the changes to the use of capacity on Multiplex A which it had received in its role as multiplexing service provider and the number of days advance notification which had been given.
- 7.98 The parties further submitted that innovation in multiplexing services generally arose through the development of multiplexing equipment (hardware and software) rather than from the activities of multiplexing service providers.
- 7.99 We were unable to resolve fully the extent to which broadcasters need to provide information to their multiplexing service provider that is not publicly available, and how far in advance such information needs to be provided. However, we noted that, although there may be some reason for a multiplex operator to prefer to purchase a bundled service, which includes multiplexing services as well as MTS/NA, there is no clear rationale why these services have to be purchased together. We noted that there are a number of possible alternative multiplexing service providers and believed that the threat of migrating to these alternative providers should provide sufficient constraint on the parties to continue to ensure that they satisfy the requirements of their existing customers.⁶⁰ We did not believe that the merger should cause any adverse effects in this area.
- 7.100 The argument that the merger will hold back innovation appears to us to be speculative and unproven.

Impact on spectrum auctions and on future competition in the provision of capacity on DTT multiplexes

- 7.101 Finally, we considered the potential impact of the merger on the forthcoming auctions of spectrum and on future competition in the provision of capacity on DTT multiplexes. We noted that such effects could arise either:
- from the use by the merged entity of its position as the only provider of MTS/NA for DTT to secure spectrum in order to strengthen its position as a provider of capacity on DTT multiplexes, or
 - from the loss of incentive on Arqiva to bid for spectrum in consequence of the merged entity's position as the operator of multiplexes C and D.

⁶⁰[] We noted also that Arqiva has offered to address SDN's concerns by amending its contract to incorporate a commitment to establish 'Chinese Walls' within Arqiva, between its multiplexing service department and its multiplex operations, and thereby to protect any confidential information which SDN may share with it.

7.102 First, we noted that these effects depend upon incompatible outcomes and so could not both occur.

7.103 The merged entity might seek to achieve the first outcome by outbidding other broadcasters on the basis that it could provide MTS/NA to itself at lower cost than it would to any other DTT multiplex operator, in order to secure advantages arising from a stronger position as a provider of capacity on commercial multiplexes. However, analysing whether it has an incentive to behave in this way is complex. The incentives depend, in part, upon the balance of advantage to the merged entity arising from strengthening its position as a provider of capacity on commercial multiplexes against the loss of income from not supplying MTS/NA to another broadcaster.⁶¹ However, the incentives also depend upon any wider impact of the auction on its multiplex operations. Under Ofcom's proposals for Administered Incentive Pricing (AIP) for spectrum not subject to auction, including that used by multiplexes C and D, the amount that the merged entity will have to pay for this spectrum post-2014 may be affected by the outcome of the auction. In this regard, we noted that a consultancy study undertaken for NGW on options for maximizing the value of its multiplex business concluded that the assessment of whether it should bid for spectrum to operate an additional DTT multiplex was complex.

Conclusion on vertical effects

7.104 On the basis of paragraphs 7.93 to 7.103:

- we did not judge that the merger raises vertical concerns with respect to foreclosure in the provision of multiplexing services;
- we noted that concerns over the transfer of commercial information were matters of dispute, whose significance remains unproven and which could be avoided by use of a different multiplexing service provider. We were not convinced by the argument that the merger would lead to delayed access to innovation, which appeared speculative; and
- we concluded that, while the merger could impact upon competition for spectrum and future competition between multiplex providers, these effects are too speculative for us to take them into account in reaching an expectation regarding an SLC. Furthermore, we noted that to the extent that the effects depend upon the merged entity possessing market power in the provision of MTS/NA, they would be addressed by any remedy that removed the ability to extract monopoly rents at the MTS/NA level.

Regulation by Ofcom

7.105 We considered the effects of the merger on regulation by Ofcom and the potential impact arising from the loss of Ofcom's ability to compare Arqiva and NGW as separate providers of NA. We noted in this regard the use of comparison between Arqiva and NGW by Scientific Generics in the preparation of consultancy advice to assist Ofcom at the time of the preparation of the current Reference Offers, and the potential need for new and/or amended reference offers that might arise in the event of additional national or quasi-national television multiplexes.

⁶¹Economic theory suggests that, considering only the case where all potential bidders are bidding to use the spectrum for applications requiring MTS/NA, the merged entity might achieve similar gains from either strategy.

- 7.106 The parties submitted that Arqiva and NGW sites were sufficiently different that any comparison exercise required detailed bottom-up investigation into each company in order to explain cost differences. They told us that although a comparison exercise of the type conducted by Scientific Generics was potentially informative, it could not be regarded as an effective tool to promote efficiency of capital and operating expenditures since the separate existence of Arqiva and NGW did not enable Ofcom to apply methods of comparative benchmarking used in other regulated industries.
- 7.107 Notwithstanding the submissions of the main parties, it appeared to us that the work of Scientific Generics identified some significant differences between Arqiva's and NGW's bases for charging, including in relation to planning uplift factors, average man year rates, contractor and consultant rates, incorporation of management and corporate overheads and treatment of inflation. These differences indicated the potential value of an ability to compare between the two companies, for example, in order to identify areas where further investigation might aid the understanding of cost structures and how these costs are reflected in charges.
- 7.108 Ofcom told us that while the loss of the ability to compare Arqiva and NGW reduced the information available, which was disadvantageous, it was not a major source of concern.
- 7.109 It appeared to us that, regardless of the ability to apply benchmarking techniques used in other regulated industries, loss of the ability to compare Arqiva and NGW potentially reduces the effectiveness of the regulatory regime. However, it is only one tool available to Ofcom in order to discharge its regulatory role in relation to NA, and we noted that other regulatory tools have been developed for determining efficient costs in other regulated monopolies. Although the ability to compare Arqiva and NGW might prove useful to Ofcom in any future assessment of pricing or reference offers, we did not take the loss of this ability into account in reaching our conclusions on whether the merger gives rise to an SLC.

Efficiency gains

- 7.110 In the course of our inquiry the parties provided estimates of efficiency gains which they believed would arise from the merger. The parties submitted that there would be operational and capital expenditure synergies and benefits arising from a de-risking of the DSO process. Further information on the parties' estimates of these efficiencies is in Appendix H. In our view, none of the claimed efficiency gains are such as to enhance competition and therefore are not relevant to whether the merger leads to an SLC. They are, however, potentially relevant to any remedies and are discussed in Section 10.

8. Effects of the merger on competition in the provision of site access and ancillary services to MNOs, wireless communication service providers and other potential users

- 8.1 We considered the effects of the merger on competition in the provision of site access and ancillary services to MNOs, wireless communication service providers and other potential users such as mobile television broadcasters.
- 8.2 Our guidelines state that, in analysing the effect of a merger, the CC will have regard to the combined market shares of the merging parties and that a combined market share of 25 per cent or more would normally be sufficient to raise potential concerns

regarding the effect of the merger on competition.⁶² Mergers that result in a market share below 25 per cent are less likely to raise such concerns, although, depending on how the market operates, they cannot be ruled out. We noted that the parties' overall share of sites, for the provision of site access and ancillary services to MNOs, wireless communication service providers and other potential users, is modest.

- 8.3 Third parties offered differing views on the likely effects of the merger on competition in the provision of site access. Some MNOs believed that they had sufficient alternatives for the merger to have little impact on their ability to access the sites and masts they required. On the other hand, notwithstanding that it appears to be rare in practice for there to be choice between an Arqiva site and an NGW site and a lack of third party alternatives, some MNOs and wireless communication service providers told us that the threat of giving preference to the use of the sites of one company in designing future networks or network extensions enabled them to exercise some competitive leverage over the two companies. These MNOs and wireless communication service providers believed that the merger removed the very limited opportunities that such competition afforded them.
- 8.4 In assessing these arguments, we noted that opportunities for MNOs to use threats of future preference in this way may be limited, in view of the importance of location in site selection under conditions in which the main requirement will be for additional sites to fill in gaps, either where there was no or poor coverage or to reinforce the network where growth in traffic volume was reducing the area that could be covered from a single site (see paragraph 5.81).
- 8.5 We considered in paragraphs 5.71 to 5.85 other factors which were suggested to us to indicate that the parties' combined market shares in site access may underestimate their competitive strength post-merger. We noted that some of these factors, such as the greater availability of the parties' sites for sharing, appear to be of declining importance, while the future significance of other factors, such as the advantages of portfolios which facilitate the rapid roll-out of new networks, depend upon developments that may or may not occur. We considered the future availability of spectrum and its uses in paragraphs 7.34 to 7.36, and the possible impact of the emergence of mobile television in paragraphs 7.60 to 7.65. We assessed the extent to which these factors increase the competitive strength of the parties, and hence the impact of the merger, against other factors that will tend to limit the ability of the parties to exercise market power.

Conclusions on effects of the merger on competition in the provision of site access and ancillary services to MNOs, wireless communication service providers and other potential users.

- 8.6 Taking all these considerations together, we found that, whilst some of the features of the merged entities' portfolio of sites may be a source of competitive strength, their importance in the future is unclear. We concluded that, with the merged company's market share being below the level which the CC guidelines suggest would normally be sufficient to raise potential concerns, we cannot be sufficiently confident of their significance for us to form an expectation of an SLC in these markets.

⁶²Merger references: *Competition Commission Guidelines (CC2)*, June 2003, paragraph 3.4.

9. Findings

- 9.1 We found that the merger may be expected to lead to an SLC as a result of the loss of rivalry between Arqiva and NGW, leading to a worsening in the price and non-price factors on which the parties compete in the provision of MTS/NA to television broadcasters and to radio broadcasters.
- 9.2 We found that the SLC may be expected to result in the following adverse effects:
- higher prices and/or lower service quality and reduced innovation in the provision of MTS/NA under existing contracts with television broadcasters;
 - higher prices and/or lower service quality in the provision of MTS/NA to television broadcasters with respect to new national DTT or sub-national DTT contracts;
 - higher prices and/or lower service quality and reduced innovation in the provision of MTS/NA in the relevant radio market under existing contracts with radio broadcasters;
 - higher prices and/or lower service quality in the provision of MTS/NA in the relevant radio market with respect to new radio licences; and
 - higher prices and/or lower service quality in the provision of MTS/NA in the relevant radio market in some cases where existing contracts with radio broadcasters expire and are renegotiated.

10. Remedies

- 10.1 Having determined that the merger may be expected to result in an SLC in the provision of MTS/NA to television broadcasters and to radio broadcasters, we then considered remedies.

The remedies questions and the criteria for choice of remedies

- 10.2 Section 35(3) of the Act requires us to consider three questions:
- (a) Should the CC itself take action to remedy, mitigate or prevent the SLC or any adverse effects resulting or expected to result from the SLC?
 - (b) Should the CC recommend the taking of action by others, eg government, regulators and public authorities for the purpose of remedying, mitigating or preventing the SLC or adverse effects resulting or expected to result from the SLC?
 - (c) In either of the above cases, what action should be taken? The CC must state the action that should be taken and what it is designed to address.
- 10.3 In considering these questions, section 35(4) of the Act requires the CC: ‘... in particular [to] have regard to the need to achieve as comprehensive a solution as is reasonable and practicable to the substantial lessening of competition and any adverse effects resulting from it’.

- 10.4 In considering the reasonableness of any remedy, the CC will have regard to the costs the remedy may impose,⁶³ in particular on third parties.⁶⁴ In choosing between two remedies which it considers to be equally effective, the CC will choose the remedy that imposes the least cost or is least restrictive.⁶⁵
- 10.5 In relation to the cost of remedies, our guidance states that ‘the Commission will generally include in its consideration of costs the costs of implementing a remedy. However, for completed mergers the Commission will not normally consider the costs of divestiture to the parties as it is open to the parties to make merger proposals conditional on competition authorities’ approval’.⁶⁶
- 10.6 Section 35(5) of the Act states that the CC ‘... may, in particular, have regard to the effect of any action on any relevant customer benefits (RCBs) in relation to the creation of the relevant merger situation concerned’.
- 10.7 As Arqiva, and almost all third parties, told us that the merger would result in RCBs, and that various remedies would impact on the RCBs and might impose costs on third parties, we first set out our approach to these issues below.

Relevant customer benefits

- 10.8 The CC’s guidance states that if the CC is satisfied that RCBs would result from a merger that also led to an SLC, it will consider whether to modify the remedy that it would otherwise put in place.⁶⁷ In other words, the CC will first identify which remedy it considers appropriate and, second, decide whether, in view of any RCBs, it wishes to modify that remedy.
- 10.9 RCBs are defined by section 41(5) of the Act as lower prices, greater choice, higher quality and higher levels of innovation.⁶⁸ Relevant customers may be customers at any stage in the supply chain⁶⁹ and the benefits do not have to arise in the same market as the market in which the SLC is expected. In order to be considered an RCB, a benefit must accrue within a reasonable time frame. RCBs must result from the merger and be unlikely to accrue without the merger or a similar lessening of competition.
- 10.10 If the CC finds that the merger has led to, or may be expected to result in, RCBs, it may take account of the effect of possible remedial action on the realization of the RCBs. The CC’s guidance⁷⁰ notes that it is possible that the expected RCBs will be of such significance as to lead the CC to permit the merger without taking any action, or that the CC may adopt a remedy short of complete divestiture that reduces the detrimental effect of the SLC, while preserving all or most of the customer benefits. In considering possible modification to a remedy, the CC is not required to weigh any prospective customer benefits likely to arise from the merger against any anti-competitive effects expected to result.

⁶³ *Merger References: Competition Commission Guidelines (CC2)*, June 2003, paragraph 4.9.

⁶⁴ *Merger References: Competition Commission Guidelines (CC2)*, June 2003, paragraph 4.10.

⁶⁵ *Merger References: Competition Commission Guidelines (CC2)*, June 2003, paragraph 4.9.

⁶⁶ *Merger References: Competition Commission Guidelines (CC2)*, June 2003, paragraph 4.10.

⁶⁷ *Merger References: Competition Commission Guidelines (CC2)*, June 2003, paragraph 4.45.

⁶⁸ See also *Merger References: Competition Commission Guidelines (CC2)*, June 2003, paragraph 4.37.

⁶⁹ *Merger References: Competition Commission Guidelines (CC2)*, June 2003, paragraph 4.39.

⁷⁰ *Merger References: Competition Commission Guidelines (CC2)*, June 2003, paragraph 4.45.

10.11 In deciding whether to modify a remedy in the light of RCBs, the CC will consider factors including:⁷¹

- the size and nature of the expected benefits;
- how long the benefits are expected to be sustained; and
- whether, as a result of the reduction of competitive pressure in the market, any immediate benefit to customers will be eroded in the future.

Arqiva's submissions

10.12 Arqiva highlighted the following RCBs, which it said would arise as a result of the merger:

- (a) Cost savings, including operational synergies, capital expenditure synergies and savings in the roll-out of DSO, which in part would be passed through to customers. Arqiva has submitted that savings arising from the merger would be passed back to customers because of existing gain-share provisions in contracts for high-power DTT and the existing regulation of NA. Arqiva has estimated the cumulative benefit to be £[redacted] (undiscounted and in 2007 prices), which includes only those benefits which would occur automatically as a result of the savings following from the merger and as a result of existing contractual obligations and existing regulatory requirements. Of the £[redacted], between £[redacted] and £[redacted] would relate to television customers and £[redacted] to radio customers. The range of £[redacted] to £[redacted] for television customers reflects the uncertainty surrounding the value of the pass-through under the BBC contract provisions. The maximum figure equates to an annual steady state benefit of £[redacted] a year (2007 prices) in total, of which £[redacted] a year relates to television customers (at the top end of the range) and £[redacted] a year to radio customers.
- (b) Reducing the risks in the DSO process, and in particular the risks of disruption during re-engineering of the network and the risk of delayed completion of the DSO roll-out process.

Consideration of synergy savings

10.13 Having considered the submissions of the parties and other interested parties, we considered it is likely that the merger will give rise to significant synergies, in both operational and capital expenditure, affecting both day-to-day operations and the exceptional DSO process. However, the precise level of these savings is difficult to quantify.

10.14 Arqiva told us that the benefits in relation to post-DSO DTT would be substantial. The contracts for post-DSO DTT were negotiated to enable the broadcaster to receive a share of any future benefit arising from reduced actual costs or merger synergies. However, the contracts differ in the way the benefits are calculated, and the likely operation of any pass-through. Some of these contracts were also signed after the merger but we considered that it is appropriate, in this case, to treat the pass-through of savings under the terms of these contracts as if they are RCBs.

⁷¹ *Merger References: Competition Commission Guidelines (CC2)*, June 2003, paragraph 4.45.

10.15 The pass-through mechanism on which the parties rely in respect of radio is the ex ante regulation of NA charges. Ofcom requires that these charges be fair, reasonable, non-discriminatory and cost-oriented. Arqiva said that these obligations would apply in relation to all radio contract renewals and would result, at that time, in a 100 per cent pass through to customers of NA cost efficiencies. Arqiva estimated that the benefit to radio customers would be worth approximately £[redacted] a year (in 2007 prices). However, as there is no pass-through mechanism for MTS savings to radio customers prior to the merger, these customers would not benefit from any synergies at this level.

Consideration of de-risking DSO

10.16 Although the DSO process has been extensively planned on the basis of Arqiva and NGW being involved as two separate entities, we accepted that the merger does reduce some elements of risk to the roll-out of DSO and consequently the risk of harm arising from a delay. However, it is difficult to assess the level of reduction in risk and to quantify the benefits to UK broadcasters and DTT viewers from a reduced risk of DSO delay. Estimates by the Department for Culture, Media and Sport (DCMS), the Department for Business, Enterprise and Regulatory Reform (BERR) and Ofcom suggest that the benefits of preventing delay are likely to be significant. We accepted that DTT broadcasters and viewers, both of whom are relevant customers for the purposes of assessing RCBs, would suffer some loss from a delay to DSO. Further, we thought that the existence of liquidated damages provisions in some customer contracts may have only a limited benefit in mitigating the losses, financial or otherwise. Therefore, we concluded that it is appropriate to treat some level of reduction in risk to DSO as an RCB.

Costs on third parties

10.17 In addition to broadcasters and viewers, there are some parties which may benefit from a reduction in the risk of delay to DSO but do not fit the definition of relevant customers for the purpose of assessing RCBs. For example, as outlined in Appendix F, the DSO process will result in a large amount of radio frequency spectrum being released, which Ofcom plans to auction. This auction has the potential to realize a large amount of revenue for the UK Treasury. If a remedy option delays the DSO process and thereby delays the auction of released spectrum, there is a cost to the UK Treasury, which can be considered as a third party for the purpose of our inquiry.

10.18 Some of the remedy options which we may consider to be effective in remedying the SLC may impose costs on third parties. The avoidance of these costs may not fit the definition of an RCB arising from the merger, but they may be considered by us in determining the appropriate remedy option.

Conclusion on relevant customer benefits and costs on third parties

10.19 Although the benefits of merger synergies and the reduced risks to DSO may be difficult to quantify, we believed that there are likely to be significant RCBs arising from the merger, which may be affected by various remedy options, and that there are also possible costs that may be imposed on third parties as a result of some of these options. Within our consideration of each remedy option, we considered both its impact on RCBs and the extent to which it may impose costs on third parties.

Remedy options

10.20 We first considered whether any of the remedy options would be effective in remedying the SLC identified and/or the adverse effects resulting from that SLC. For the remedies which we considered to be effective, or potentially effective, we then considered the implications of these remedies on RCBs and the relevant costs on third parties. We presented our initial views on remedies to the parties and relevant third parties in a Remedies Working Paper on 25 January 2008, which was followed by a supplement on 8 February 2008. We considered the responses to these documents in reaching our decision.

Divestiture remedies

10.21 The SLC we identified is in the provision of MTS/NA services to both television broadcasters and radio broadcasters. In order to provide a remedy which is effective in addressing the SLC, it is important that a divestiture package should address all the relevant operations pertinent to the area of competitive overlap, should be saleable to a suitable purchaser and should be separable from the remaining business.⁷² The CC will normally seek to identify the smallest operating unit of a business that contains all the relevant operations pertinent to the area of the competitive overlap, but which can also compete successfully on a stand-alone basis.

10.22 We considered which assets would need to be divested, and how saleable and separable the Arqiva and NGW MTS/NA businesses were, in order to see whether a divestiture package constituted from parts of either business would be a suitable remedy.

10.23 In order to contain all the relevant operations pertinent to MTS/NA, a divestiture package would involve:

- the sale of the assets (possibly including sites);
- the transfer of requisite personnel (including senior management and technical staff); and
- the transfer of customer contracts and any relevant leases or tenancy agreements (some of which might involve either a novation or an assignment of contract).

10.24 We considered two forms of divestiture remedy:

- (a) divestiture of the whole of NGW; or
- (b) divestiture of those parts of NGW, and possibly Arqiva, necessary for the supply of television and radio MTS/NA.

Full divestiture

10.25 A full divestiture remedy would require Arqiva to divest NGW as a whole by selling the entirety of its business to a suitable purchaser.

⁷²*Application of divestiture remedies in merger inquiries: Competition Commission Guidelines (CC8)*, December 2004, paragraph 2.2.

- 10.26 Arqiva accepted that the divestiture of NGW as a whole would be effective in remedying the SLC. However, Arqiva told us that while the divestiture of NGW as a whole might be feasible, it would be wholly disproportionate to the SLC identified, given the value of future competition in the relevant UK markets and because there were parts of NGW which operated in markets in which we found no SLC or adverse effects.
- 10.27 We concluded that a divestiture of NGW as a whole would reverse the merger. If successfully implemented, it would represent a comprehensive, effective remedy to the SLC. Therefore, we considered whether, in practice, this remedy was likely to be successfully implemented.
- 10.28 We were aware that [X] companies submitted second round offers for NGW when it was acquired by Arqiva (see paragraph 6.3). While there have been significant changes in the debt markets since the sale of NGW, we concluded that these changes would be likely to affect the sale price offered for NGW, rather than preclude the interest of any suitable purchaser of the business.
- 10.29 Arqiva and NGW have been held separate during the course of this inquiry under the terms of interim undertakings and therefore we considered it unlikely that difficulties in divesting NGW would occur as a result of needing to disentangle the businesses or due to the deterioration of the NGW business.
- 10.30 We concluded that the divestiture of NGW as a whole would effectively address the SLC and while there may be risks associated with this remedy, we concluded that a suitable purchaser is likely to be found who would operate the business as an effective competitor to Arqiva in the relevant markets.
- 10.31 However, we acknowledged that full divestiture would remove all the RCBs arising from the merger and might impose costs on third parties, through the increased risk to the DSO process. Furthermore, a full divestiture would include the divestment of business activities where we have found no SLC (the two NGW multiplexes and the wireless sites business).

Partial divestiture

- 10.32 We considered several possible partial divestiture packages, of which, through our consideration of submissions from the industry, the following emerged as the main options:

(a) divestiture of NGW's MTS/NA business; and

(b) divestiture of NGW's television MTS business and some radio MTS business made up of parts from NGW and/or Arqiva, supported by a package of behavioural remedies.

- 10.33 We discuss these options in turn.

Divestiture of NGW's MTS/NA business

- 10.34 We considered a partial divestiture package consisting of all of NGW's MTS/NA business, including its broadcast sites. Under this divestiture, Arqiva would retain ownership of multiplexes C and D and NGW's wireless sites that are not also used for television or radio broadcasting. We recognized that this divestiture would need to be supported by an appropriate contract for MTS/NA services in relation to multiplexes C and D, which Arqiva would continue to own. However, we believed that

this divestiture would not otherwise need to be supported by an extensive package of behavioural remedies.

- 10.35 Although the divested business would no longer own the majority of NGW's wireless sites, by retaining ownership of all of NGW's broadcast sites, many of which are suitable for wireless services, the business would retain an interest in the wireless market.
- 10.36 Arqiva told us that it considered this option to be an effective remedy to the SLC, but argued that it would remove all the RCBs, both the synergy savings from combining the businesses, and the benefits of de-risking DSO. Arqiva also told us that it considered the divestiture of NGW's television MTS and some radio MTS to be equally effective and less intrusive.
- 10.37 Many parties, including Ofcom, told us that this option would be an effective remedy, but would not preserve any of the RCBs, neither those arising from the pass-through of operating cost and capital expenditure efficiencies, nor those arising from de-risking the DSO process.
- 10.38 The BBC told us that it did not consider that this option was likely to be an effective remedy. The BBC told us that NGW's wireless sites business provided a significant source of income and shared a significant portion of its overheads with NGW's NA business, and noted that a broadcast-only company had not been tested in the market.
- 10.39 The BBC told us it was concerned that, by divesting NGW without the multiplexes and the wireless sites, two important revenue streams would be removed and what would be left would be a relatively small broadcast MTS/NA business, which would suffer from an asymmetry in future competition with Arqiva.

Achieving a sale of the divestiture package

- 10.40 We considered whether this partial divestiture package would attract suitable purchasers.
- 10.41 We believed that the proposed divestiture would provide the acquiring company with a reliable and regular source of income, both through its provision of NA, which is a substantial and reliable revenue stream, and its provision of MTS. We believed that the proposed divestiture would be of a sufficient scale to compete effectively with Arqiva in MTS/NA, and that the divested business would be attractive to a purchaser with the capability to fund its portion of the DSO programme. While we accepted that the loss of cost sharing and portfolio advantages would affect the profitability of the business, we believed that these factors would affect the price realizable for the business rather than its competitiveness in the relevant markets.
- 10.42 We concluded that suitable purchasers were likely to be available for this option and were likely to be interested in competing for future MTS/NA contracts. Although there may be fewer buyers interested in this divestiture package than for a full divestiture (including the multiplexes and the wireless sites), we considered that the purchasers of the full divestiture package might be more focused on the multiplex and/or the wireless business, rather than on developing the MTS/NA business in competition with Arqiva, which would make this partial divestiture a more appropriate option.
- 10.43 We believed that this partial divestiture package would be viable as the ownership of half of the network of broadcast NA sites and all NGW's MTS/NA contracts (including long-term contracts in relation to multiplexes C and D) would together generate a

reliable and stable income. We also believed that it would be of sufficient size, have sufficient management and technical expertise and retain its strong industry reputation, such that it would be able to compete effectively with Arqiva for MTS/NA.

Conclusion on divestiture of NGW's MTS/NA business

- 10.44 We believed that the divestiture of NGW's entire MTS/NA business, including all its broadcast sites, is likely to be effective in addressing the SLC. Further, we believed that this remedy is likely to be as effective as a full divestiture.
- 10.45 This remedy would have the same effect on RCBs and impose a similar level of costs on third parties as full divestiture. However, it would be less intrusive than full divestiture and, accordingly, we concluded that we prefer this remedy to full divestiture.
- 10.46 If we were to implement this remedy, Arqiva would be permitted a period of [] from the acceptance of divestiture undertakings or an order to divest in which to market and sell the NGW business. Arqiva would need to obtain the CC's approval of the prospective purchaser, as set out in the CC's guidance on divestiture remedies.⁷³ If Arqiva had not sold the business by the end of this period, the CC would have the option of requiring Arqiva to appoint a divestiture trustee, paid for by Arqiva but subject to the sole direction of the CC, to achieve the sale of the business to a suitable purchaser on the best terms available in the circumstances but subject to no minimum price.

Divestiture of NGW's television MTS and some radio MTS

- 10.47 We considered a partial divestiture package consisting of NGW's television MTS business and some radio MTS business. This package would include the contracts and assets necessary to deliver MTS/NA services for multiplexes C and D (which would not be divested) and for a set of radio customers, but would not include NGW's television broadcast sites. We noted that this divestiture might include a number of radio-only broadcast sites. This divestiture would need to be supported by an extensive package of behavioural remedies, including the functional separation of Arqiva's NA business and the appointment of an independent adjudicator. The independent adjudicator would monitor and enforce the functional separation of Arqiva's NA and MTS business, and be responsible for ensuring that NA was provided to Arqiva and the divested firm on an equivalent basis.
- 10.48 Arqiva told us that it considered this option to be equally effective and less intrusive than the more substantial partial divestiture of all of NGW's MTS/NA business.
- 10.49 Arqiva proposed three alternative packages of radio-only transmission sites that could be included in the divestiture, each of which it said would reduce the dependence of the divested business on Arqiva for the delivery of MTS/NA services to its own radio customers and would reintroduce a degree of mutual interdependence for access to sites. Arqiva told us that it would require guaranteed access to the divested sites in order to ensure the provision of its own radio MTS/NA services, but did not request that the divested business be functionally separated in the same way as Arqiva.
- 10.50 Most third parties told us that they did not consider this option to be an effective remedy, as they did not believe that the divested business would be an effective long-term competitor to Arqiva. Most parties submitted that Arqiva would retain a

⁷³ *Application of divestiture remedies in merger inquiries: Competition Commission Guidelines (CC8)*, December 2004, paragraph 2.2.

significant competitive advantage from being vertically integrated, despite any functional separation regime, and would retain substantial scale and incumbency advantages that would result in the divested business being a weak competitor, unable to constrain the behaviour of Arqiva.

- 10.51 One third party told us that it did not believe that functional separation, which sought to ensure equivalent access to sites, was feasible in television and radio MTS/NA, due to the small number of heterogeneous contracts. Another third party told us that this remedy option would rely on what was already an artificial separation between MTS and NA.
- 10.52 One third party told us that this option would be an effective remedy, as long as the divested business benefited from the established management and expertise of NGW.
- 10.53 We recognized that this option could, in principle, remedy the SLC as well as the adverse effects arising from the SLC, by restoring competition at the MTS/NA level, but only if the divested business were an effective competitor to Arqiva. We accepted that there would be significant difficulties in implementing functional separation in this market, and in identifying a suitable purchaser which would be an effective competitor in the long term. We were not persuaded, given the lack of any established competitor of Arqiva or NGW in the supply of MTS/NA in the UK, that a suitable purchaser could be identified to provide a credible competitive threat in respect of contracts awarded in the future. Whilst we accepted that a purchaser would inherit some of the management team and field personnel of NGW (and perhaps Arqiva), we doubted whether such a small competitor would be able to maintain a competitive stance in the long term. In particular, we questioned whether they would be able to provide the same level of assurance as Arqiva for customers whose businesses depend upon a reliable and uninterrupted transmission service.
- 10.54 While we recognized that the inclusion of a number of radio transmission sites in the divestiture package would increase the scale of the business and provide it with an enduring presence in the market, and at the same time would restore some degree of interdependency between the acquiring company and Arqiva for radio NA, we believed that Arqiva would retain substantial scale and incumbency advantages over the divested business.
- 10.55 Although we accepted that the divested business would be initially profitable, due to the mix of contracts and assets transferred, possibly including some radio transmission sites, we believed that it would face substantial obstacles and risks, which were likely to prevent it from being an effective competitor to Arqiva in the long term. These risks include:
- the divested business would be a niche provider of MTS/NA services, competing against a large, vertically integrated business;
 - the divested business would be dependent on its only significant competitor as its principal supplier (for NA) and as its largest customer (for multiplexes C and D);
 - Arqiva would have a significant reputational advantage (we were told by potential customers that they would be unlikely to consider the divested business as an appropriate provider of MTS/NA services); and
 - the adjudicator would face significant challenges in monitoring and enforcing functional separation and ensuring that NA is provided on an equivalent basis.

- 10.56 In addition, we believed that this partial divestiture option would require extensive behavioural remedies, including the implementation of functional separation, which in many respects would be as extensive, complex and intrusive as the measures required in a package of behavioural remedies without any divestment. We noted that the implementation of these remedies would result in the loss of some of the RCBs, but would be unlikely to impose substantial costs on third parties.
- 10.57 We concluded that, while this remedy option might in principle address the SLC, as well as the adverse effects, we believed that there are considerable risks regarding the operation of the divested business as a competitive entity, which, in combination, are likely to result in this option not being an effective remedy. Therefore, we rejected this remedy option.

Other partial divestiture remedies

Divestiture of NGW's MTS/NA business, with its multiplex business

- 10.58 We considered including multiplexes C and D, as well as NGW's MTS/NA business, within the divestiture package.
- 10.59 Some third parties, including Ofcom, told us that the inclusion of multiplexes C and D was likely to make the divestiture package more attractive, but potential purchasers were likely to be attracted to the business by the multiplexes and might not compete as actively in MTS/NA.
- 10.60 We recognized that the addition of the multiplexes to the divestiture package would remove the need for a contract for MTS/NA services between the divested business and Arqiva for the multiplexes. However, as we did not believe that agreeing such a contract would be difficult to achieve, we did not think that including the multiplexes within the divestiture package significantly enhanced the effectiveness of the remedy. Rather, we believed that it made the remedy significantly more intrusive. Therefore, we rejected this remedy option.

Divestiture of all MTS

- 10.61 We considered the option of divesting all of the television and radio MTS contracts of both Arqiva and NGW, in two packages, each to a separate purchaser. Under this remedy, Arqiva would retain the possession of all NA assets and sites but would be prevented from re-entering the MTS market. This structural remedy would require supporting behavioural remedies, including contracts between the two divested MTS providers and Arqiva for NA, and a contract between one of the divested MTS businesses and Arqiva for the provision of MTS to multiplexes C and D, which Arqiva would retain. Arqiva would be the monopoly supplier of NA, which would have to be effectively price regulated, but there would not be a need for a functional separation regime as both MTS operators would be independent of the merged entity.
- 10.62 Various third parties indicated that while this divestiture could, in principle, remedy the SLC, it was not desirable as it would involve a radical change to the market at a time when the industry was already in the middle of significant upheaval. These parties told us that this remedy would increase the risk of delays to DSO, as it would affect all companies in the industry, requiring a review of all customer contracts and requiring significant management input. In addition, some third parties told us that the separation of MTS and NA would be artificial and would increase customers' costs.
- 10.63 Arqiva noted that many of its contracts specify that Arqiva, as the MTS provider, bears the risks associated with the successful delivery of its MTS/NA services (eg

risks arising from the potential delay to DSO). Under this divestment option, although Arqiva, as the NA provider, would have more control of these risks, the burden of risk would remain with the acquired MTS business.

- 10.64 We concluded that this option would compound the risks of successful divestiture, requiring, as it does, the creation of two viable MTS businesses. We concluded that these risks are such that this option is unlikely to be effective. In addition, we recognized that this remedy would be highly intrusive, as it would affect all customers for MTS/NA, whether they are currently customers of NGW or Arqiva. Therefore, we rejected this remedy option.

Divestiture of radio MTS contracts

- 10.65 Arqiva offered a hybrid option, which included the divestiture of a mix and match package of radio MTS contracts together with a package of behavioural remedies designed to address the adverse effects in television.
- 10.66 Ofcom and other third parties told us that a radio-only MTS entity would probably not be able to compete effectively in the long term for radio MTS and would not be able to compete effectively for television MTS.
- 10.67 We concluded that the divestiture of radio MTS is unlikely to be effective in the long term to address the SLC in radio, as the divested entity would remain strategically disadvantaged in competing with Arqiva for similar reasons to those outlined above when considering the option of a divestiture of NGW's television and radio MTS business (see paragraphs 10.47 to 10.57). We also concluded that this remedy would not address the SLC in television MTS, which would be dependent on the implementation of an effective set of behavioural remedies. Therefore, we rejected this remedy option.

A package of behavioural remedies

- 10.68 Due to the significant barriers to entry identified in Section 5, we believed that a package of behavioural remedies, without any divestment, would not address the SLC effectively but, rather, would be designed primarily to address the adverse effects of the SLC. As the merger would be allowed to proceed, this option would preserve the RCBs and would reduce the risk of costs being imposed on third parties.

Arqiva's proposals

- 10.69 Arqiva proposed a detailed package of behavioural remedies which provide for future regulation, enhanced contractual provisions and dispute resolution mechanisms. These remedies seek to regulate Arqiva as the monopoly supplier of MTS/NA to almost all broadcast customers. Arqiva presented its proposed package of behavioural remedies in the form of a draft set of undertakings which it would offer to the CC, shown in Appendix I.
- 10.70 In total, Arqiva's proposed package of behavioural remedies ensures that approximately £165 million is passed back to broadcast customers as a result of the merger (net present value to 2020, calculated using a 10.4 per cent nominal discount rate). Arqiva's proposed package includes:
- a guaranteed and immediate 17 per cent price discount on all existing radio MTS/NA contracts (with the discounted price maintained upon renewal);

- a guaranteed and immediate 3.25 per cent price discount on all existing analogue television and low-power DTT MTS/NA contracts;
- guaranteed fixed-sum price reductions on all high-power DTT MTS/NA contracts, together worth £44 million to 2020 or £72 million to 2032 (net present values);
- the option for contract renewals to be based on the same prices and terms as the existing contract or to be determined on cost-oriented and FRND terms;
- new contracts, for new or existing services, to be determined with cost-oriented pricing and on FRND terms or, if they are for similar services to an existing contract, the option for them to be based on the same terms as the existing contract;
- enhanced service level and service credit provisions for all customers;
- a ‘super credit’ regime to compensate for customers’ inability to move to an alternative provider in the event of persistent poor performance;
- an independent adjudicator, paid for by Arqiva but accountable to the OFT and under the guidance of Ofcom, to resolve disputes between Arqiva and its customers and to ensure that new services and contract variations are provided on cost-oriented and FRND terms;
- the preparation and audit of separate regulatory accounts for Arqiva’s MTS and NA operations;
- an annual audit of the DSO programme;
- provisions to ensure the confidentiality of information which is provided to Arqiva for one purpose but which could be used by it in another part of its business to its competitive advantage; and
- the option, at the end of an MTS/NA contract, for the customer to acquire ‘stranded assets’, so as to facilitate future new entry in MTS.

10.71 Arqiva recognized that the role of the independent adjudicator would be essential to the effective operation of the behavioural remedies package. Arqiva proposed that the role would be similar to that of the adjudicator involved in overseeing the Contract Rights Renewal (CRR) undertakings, which were put in place to regulate the sale of ITV advertising.

Comments from third parties and Ofcom on Arqiva’s proposals

10.72 All the parties’ principal television and radio broadcast customers told us that a suitable package of behavioural measures was their preferred remedy. One third party said that a package of behavioural remedies was suitable in this market due to:

- it being a unique time for the industry, with DSO causing significant upheaval, in the context of which any substantial divestiture would be problematic;
- the significant synergies and other potential benefits arising from the merger, which could be passed back to customers; and
- the broadcast industry being well suited to regulation of this sort, with large, sophisticated customers and a limited number of long-term contracts for a limited

range of services, as well as an existing, well-established sectoral regulator (Ofcom).

However, views varied regarding the importance of certain elements within the package of behavioural remedies and, in particular, the appropriate level of price reductions.

- 10.73 Ofcom recognized that, if the merger were allowed to proceed without divestiture, it would create a de facto monopolist in the provision of MTS/NA. Ofcom stated that a package of behavioural remedies would need to provide adequate protection to customers from the market power that the merger bestowed upon Arqiva.
- 10.74 Ofcom suggested that, in order to provide adequate protection to customers, the terms that Arqiva offered to customers as part of the behavioural package should address the loss of dynamic efficiencies arising from the loss of rivalry, and should pass back a substantial portion of both the merger synergies and the contribution to common costs likely to be recovered from future business. Ofcom considered that there were arguments for a higher level of pass back than in Arqiva's proposed package of behavioural remedies, but noted that this package would provide significant benefits for customers.
- 10.75 Ofcom indicated that, given Arqiva's post-merger position as the monopoly provider of MTS/NA services, it is likely, in due course, to conduct a further market review under the Communications Act 2003. Ofcom recognized that one of the outcomes of such a review might be a comprehensive price control mechanism to regulate a bundle of television and radio MTS and NA services. Ofcom submitted that a price cap would be very complex to establish now, but it could be considered in the future.
- 10.76 One of the measures within Arqiva's proposed package of behavioural remedies seeks to facilitate new entry into the MTS market by providing for the transfer of 'stranded assets' at the conclusion of an MTS contract. Ofcom told us that this measure was potentially useful but little reliance could be placed upon it, as it was unlikely to address the SLC to any significant extent. Arqiva also considered proposing a measure which would enable prospective new entrants to have access to Arqiva's field force, but Ofcom said that this measure would also be unlikely to address the SLC to any significant extent, and in any case the proposal was withdrawn.
- 10.77 Ofcom noted that the range of responsibilities required for the proposed adjudicator would far exceed those of other adjudicator schemes, such as the CRR scheme, which had a much more limited remit.

Our reasoning

- 10.78 A package of behavioural remedies will preserve the RCBs, but, as it will not address the SLC, all competitive rivalry in the market will be lost. Therefore, a package of behavioural remedies will need to address all the adverse effects of the merger. Given that Arqiva will be the monopoly provider of MTS/NA, and in light of the barriers to entry we have identified, any new entry, even with enabling behavioural measures, is unlikely and the behavioural measures may be required for a long period.
- 10.79 For behavioural remedies to be effective in addressing the adverse effects of an SLC it is necessary that they are:

- (a) clearly specified and sufficiently straightforward to address the adverse effects, and to enable effective monitoring and enforcement;
- (b) adaptable to change in the market;
- (c) able to prevent circumvention by the parties; and
- (d) supported by well resourced monitoring and enforcement, within an appropriate legal framework.

We considered Arqiva's proposed package of behavioural remedies against these criteria.

- 10.80 Behavioural measures need to be clearly specified so that non-compliance is evident to customers and others involved in monitoring. We believed that Arqiva's proposed package of behavioural remedies, although complex, would provide reasonable clarity regarding the measures to which Arqiva is committed. However, we also believed that there remains scope to simplify the measures and, in some cases, to clarify how they will operate in practice.
- 10.81 The measures need to be able to regulate new forms of service and adapt to other changes in market circumstances to sustain their effectiveness in addressing the adverse effects. This requirement is a potential area of weakness in any form of behavioural remedy. We believed that the requirement in Arqiva's proposals to offer new services on the same basis as existing similar services or on cost-oriented and FRND terms, together with extensive change control provisions in existing contracts, and the supervision of the adjudicator, should combine to limit the risks in the foreseeable future. However, we noted comments from the OFT that Arqiva's proposed package of behavioural remedies could provide more flexibility, so as to enable changes to the remedies package, as required by non-material developments in the industry, to be introduced more easily.
- 10.82 The behavioural measures should not be vulnerable to the merged entity exercising its market power in alternative forms, such that the intent of the measures is circumvented. We noted that Arqiva's proposals include enhanced service levels, and service credit and 'super credit' provisions. We believed these measures, appropriately drafted, should prevent the improvements in pricing being offset by a deterioration in service quality, and believed that the package of measures in Arqiva's proposals would limit the risk of circumvention. However, we remained concerned that a package of behavioural remedies should provide certainty to customers and that any undertakings should provide certainty on the effective delivery of the intended remedies.
- 10.83 Behavioural measures generally require well-resourced monitoring and enforcement capabilities to ensure that they are effective. We believed that the adjudicator function, proposed by Arqiva to be accountable to the OFT and subject to the guidance of Ofcom but paid for by Arqiva, is essential in enabling effective monitoring and enforcement of the proposed measures. We perceived that there is a risk of significant information asymmetry between the adjudicator and Arqiva, which may impair the adjudicator's effectiveness, but, overall, we believed that measures could be put in place to ensure that the role of the adjudicator is adequately resourced and fit for purpose. We noted that there remain a number of points of concern about the adjudicator function, which would need to be resolved before we could accept a package of behavioural remedies.

- 10.84 A key advantage of behavioural measures in this case is the avoidance of imposing costs on third parties by requiring a divestiture which would significantly increase the risk of delay to the DSO process. The circumstances of this merger, in the context of the largest ever broadcast transmission capital project, and involving the two companies critical to that project, are unique. At the same time, behavioural measures can preserve the significant RCBs arising from the merger. In Arqiva's proposed measures, the pass-back arrangements of the savings arising from the merger are intended to provide guaranteed up front benefits for customers. Arqiva has offered to pass back to customers over 80 per cent of what it calculated to be the relevant synergy benefits arising from the merger and, in addition, will compensate radio customers with significant sums in recognition of the loss of rivalry for future new and renewed contracts.
- 10.85 One of the adverse effects of the SLC may be reduced innovation in television and radio MTS/NA. In response, Arqiva proposed the establishment of an innovation fund. We were doubtful that such a fund, administered by a cross section of customers and industry bodies, would be effective in stimulating innovation and addressing this adverse effect. Instead, Arqiva proposed to increase the level of pass-back to customers, which was then reflected in its package of proposed remedies.
- 10.86 We recognized that, post-merger, new entry into the television or radio MTS/NA market is unlikely on any significant scale in the short to medium term. However, as the behavioural remedies may remain in force for a considerable period and we would not want to exclude the possibility of future entry, we proposed that the behavioural measures should include the option for an MTS/NA customer to purchase the relevant 'stranded assets' at the conclusion of their contract. Arqiva has included this option in its package of proposed remedies. In agreement with Ofcom, we did not believe that requiring Arqiva to make available its field force to potential new entrants would have any significant effect in encouraging new entry.
- 10.87 We noted Ofcom's suggestion that it is likely, in due course, to conduct its own market review under the Communications Act 2003. We supported this proposal. Notwithstanding the role of the OFT in monitoring any undertakings, we recognized the ability of Ofcom to undertake a market review at any time to address Arqiva's significant market power.

Conclusion on package of behavioural remedies

- 10.88 Overall, we believed that a package of behavioural remedies, similar to that proposed by Arqiva, has a high probability of being effective in addressing the adverse effects of the merger. We retained a number of concerns with Arqiva's proposed package of behavioural remedies, in particular with regard to ensuring that the proposed measures give customers and regulators certainty and clarity. In the unique context of the DSO process, we recognized that a package of behavioural remedies would reduce the risk of imposing significant costs on third parties, which may occur under some of the other remedy options. Furthermore, we recognized that Arqiva's proposed package of behavioural remedies would pass back to customers over 80 per cent of what it calculated to be the relevant merger synergies and would provide substantial compensation in lieu of the loss of future competition.

Conclusion on remedies

- 10.89 In our guidance we state that structural remedies 'are likely to be preferable to remedies that impinge on the behaviour or conduct of firms (so-called behavioural remedies) as they address the effect of the merger directly and will require

comparatively little, if any, monitoring or enforcement of compliance'.⁷⁴ However, given the particular circumstances of this inquiry, we concluded that we support the implementation of a package of behavioural remedies. These remedies will be similar to Arqiva's proposed package of behavioural remedies, subject to resolving a number of outstanding issues and concerns. We believed the resulting package of measures will:

- have a high probability of being effective in addressing the adverse effects of the SLC, albeit not as certain as that of divestiture;
- preserve substantial RCBs in terms of the pass-through of merger synergies and the de-risking of DSO; and
- avoid the risk of imposing significant costs on third parties through the possible disruption of DSO.

We noted that this choice was supported by the broad consensus of the parties' customers.

10.90 We also noted that Ofcom recognized that the package of behavioural remedies would provide substantial benefits to customers and, subject to resolving a number of detailed issues, was supportive of the merger proceeding on this basis.

10.91 In addition to the ongoing monitoring of the undertakings by the OFT, we noted and supported Ofcom's suggestion of carrying out a market review of the provision of MTS/NA services in due course.

10.92 Although the package of behavioural remedies has been specified in significant detail by the parties, further detailed work is required. There are a number of points to resolve in order for us to be confident that a package of behavioural remedies will be effective in addressing the adverse effects of the SLC (as described in paragraph 10.79). It is possible that this work will reveal flaws in the effectiveness of the proposed package which cannot be resolved.

10.93 If the parties are unable to propose a satisfactory package of behavioural remedies then we will require the parties to implement the divestiture of NGW's entire MTS/NA business, as discussed in paragraphs 10.34 to 10.46.

10.94 Until we accept a set of behavioural undertakings from Arqiva, or until Arqiva achieves a divestiture which is effective in remedying the SLC, we will continue to require the businesses of Arqiva and NGW to be held separate.

⁷⁴*Merger References: Competition Commission Guidelines (CC2)*, June 2003, paragraph 4.15.