Neutral Citation Number: [2017] EWHC 3376 (Admin)

Case No: CO/4042/2017 AND CO/4260/2017

IN THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION
ADMINISTRATIVE COURT

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 20/12/2017

Before :

MR JUSTICE GREEN

- -

Between :

The Queen on the application of HUTCHISON 3G UK LIMITED	**Claimant**
- and -	
OFFICE OF COMMUNICATIONS	**Defendant**
TELFÓNICA UK LIMITED **EE LIMITED** **BRITISH TELECOMMUNICATIONS PLC** **VODAFONE LIMITED**	**Interested Parties**

- -

The Queen on the application of BRITISH TELECOMMUNICATIONS PLC	**Claimant**
- and -	
OFFICE OF COMMUNICATIONS	**Defendant**
TELFONICA UK LIMITED **VODAFONE LIMITED** **HUTCHISON 3G UK LIMITED**	**Interested Parties**

- -

Jon Turner QC, Brian Kennelly QC and Daniel Cashman for, HUTCHISON 3G UK LIMITED instructed by Linklaters LLP
Daniel Beard QC, Philip Woolfe and David Gregory for BRITISH TELECOMMUNICATIONS PLC and EE LIMITED instructed by Osborne Clarke LLP

Dinah Rose QC, Jessica Boyd and Tom Coates, for OFFICE OF COMMUNICATIONS instructed by Ofcom Legal Department
Michael Fordham QC and Tristan Jones for VODAFONE LIMITED instructed by Towerhouse LLP
Tim Ward QC and Emily Neill for TELEFÓNICA UK LIMITED instructed by Herbert Smith Freehills LLP

Hearing dates: 5th, 6th and 7th December 2017

- -

Approved Judgment

MR JUSTICE GREEN :

A. Introduction: Overview and conclusion

(a) the Decision under challenge

1. There are before the Court two claims for judicial review of a decision taken by the Defendant, Ofcom, in relation to the rules governing an auction ("the Auction") of radio bandwidth or "*spectrum*" that Ofcom initially intended to initiate in late October/November 2017. The decision is set out in a Statement dated 11th July 2017 entitled "*Award of the 2.3 and 3.4 GHz spectrum bands - Competition issues and Auction Regulations*" ("the Decision"). The Auction will determine the award of wireless telegraphy licences for use of spectrum in: (a) the 2.3 GHz band (2350 - 2390 MHz); and (b), the 3.4 GHz band (3410 - 3480 MHz and 3500 - 3580 MHz).

2. This amounts to about 29% of the spectrum presently available. The Auction therefore represents a major opportunity for all Mobile Network Operators ("MNOs") to expand their service offering. The 3.4 GHz spectrum may in particular be valuable for the provision of future mobile telephony 5G services.

3. In the Decision Ofcom has set out its conclusions on the architecture of the Auction. Its conclusions are reflected in a draft of the rules ("the Regulations") that will govern the operation of the Auction. There are two conclusions which form the basis of the claims.

4. First, Ofcom has decided that the Auction should be subject to two restrictions which have the effect of setting a cap on the amount of spectrum that any MNO can acquire. In the Decision Ofcom explained what these restrictive rules were, and their intended effects:

> "1.3 … we have decided to apply two separate caps on the amount a single operator may hold:
>
> • A cap of 255 MHz on the amount of mobile spectrum that is immediately useable after the Auction.
>
> • A cap of 340 MHz per operator on mobile spectrum *overall* after the Auction. This overall cap represents 37% of all the mobile spectrum that we expect to be useable within similar timeframes to the 3.4 GHz band.
>
> 1.4 These two caps will have the effect of preventing BT/EE from bidding for spectrum in the 2.3 GHz band. They will also restrict BT/EE to winning no more than 85 MHz in the 3.4 GHz band and restrict Vodafone to winning no more than 160 MHz across the 2.3 GHz and 3.4 GHz bands together."

5. A further effect is that BT/EE will be required to bring its spectrum holding down to the 37% level over a period of years extending beyond completion of the Auction. In

this appeal, in their respective Grounds, BT/EE says that the restrictions are excessive and disproportionate and H3G says that they are too lax.

6. Second, although not explicit in the draft Regulations, the Decision reflects another issue about which Ofcom has formed a definitive conclusion. This concerns split assignments. These are licences of spectrum which are not adjacent or contiguous to each other on the bandwidth. H3G is now the owner of two licences of such split assignments. At one stage Ofcom decided that as a condition of being permitted to participate in the Auction the then owner of these two licences (UK Broadband) would be compelled to relinquish them and to obtain a replacement, contiguous, licence covering the same total bandwidth. However, Ofcom changed its position on this and there is, accordingly, a provision in the Auction Regulations under which H3G has an option to seek a replacement licence but not an obligation. This change of position is challenged by BT/EE.

7. The claims are brought by (i) Hutchison 3G (UK) Limited ("H3G") and (ii) British Telecommunications Plc, and, EE Limited (collectively "BT/EE"). The Defendant in both claims is The Office of Communications ("Ofcom"). Telefónica UK Limited owns 02 ("Telefónica" or "O2") and appears as an Intervener to oppose both claims. Vodafone Limited ("Vodafone") also appears as an Intervener to oppose both claims.

(b) Spectrum, its availability, and its impact upon market growth

8. To place the legal arguments into context it is necessary to explain how and why radio spectrum is a critical raw material for the provision of mobile telephony services. The radio spectrum is a part of the wider electro-magnetic spectrum, which comprises all forms of electro-magnetic waves (such as visible light, infrared and X-rays). Radio spectrum includes waves that can travel over significant distances, and in some cases through objects such as walls and over hills. Radio waves can be modified by human action so that they can carry information, and this permits people to communicate with each other reliably without the need for wires.

9. Radio waves are defined by their frequency ie the number of times that the wave oscillates per second. The unit of frequency is a hertz (Hz) representing one oscillation per second: A kilohertz (kHz) is a thousand oscillations per second; a megahertz (MHz) is a million oscillations per second; and a gigahertz (GHz) is a thousand million oscillations per second. A group of radio frequencies that is contiguous is termed a spectrum or frequency '*band'*. It is worth noting that other types of electro-magnetic wave (eg light) have frequencies oscillating at many orders of magnitude higher than radio.

10. The importance of radio spectrum and hence the importance of a new auction of a substantial amount of new capacity is obvious. Ofcom says: "*Radio spectrum is a scarce and finite resource. The spectrum itself is a major asset to the UK economy and society because it is the means by which all wireless communications devices operate. It is critical to areas such as mobile telephony and multimedia, radio and television broadcasting, satellite communications, air travel, emergency services, and public utilities*" (Decision paragraph [2.9]).

11. It follows from the fact that spectrum is both finite but a critical resource for industry, that the outcome of an auction, for instance if one company wins the lot, can have a

long-standing impact upon the market. Competitors get infrequent chances to win new spectrum capacity: There are very few races, not many horses, and the winner can take all.

(c) The sensitivity of the Mobile Network Operators ("MNOs")

12. The use of auctions to dispose of spectrum has, in recent years, become standardised across the industrialised world and the design or configuration of an auction is now the subject of detailed regulatory learning. Regulators seek to design the governing rules to optimise competition and consumer welfare. In the past, for instance, this has involved reserving certain packages of capacity to new market entrants.

13. In light of the above it is no surprise that MNOs are conscious of the strategic need to protect their interests by influencing the architecture of an auction. In the Decision Ofcom noted that various MNOs had indicated that if they were dissatisfied with the Decision Ofcom proposed to take in relation to the Auction, then they would seek permission to bring judicial review proceedings. Ofcom observed that if this was so then such claims should be expedited to avoid delays in the Auction process. On any view the proposed Auction is important and delay in its implementation is potentially harmful to the economy.

(d) The points in time at which new spectrum will become available and useable.

14. The spread or distribution of spectrum as between MNOs is likely to vary over time as new spectrum becomes available and is useable. There is an important distinction between availability and useability.

15. In its Decision (at Annex 3) Ofcom sets out a detailed analysis of when spectrum becomes "*useable"*. The test for useability comprises three components: (i) ***allocation*** where the spectrum has been allocated (eg via an auction) and the resultant licences permits it to be used for mobile services and there is sufficient time to allow for the network to be rolled out following the award; (ii) the ***absence of constraints upon use*** which are sufficiently significant to undermine the substitutability of the band for adding capacity relative to the auctioned bands (eg a clearance programme of previous users or on-going requirements to address co-existence with other users); and (iii), there is a ***sufficiently developed ecosystem*** for the spectrum for mobile services. User devices such as smartphones and tablets etc are the key constraints rather than network equipment. In this connection Ofcom considers that spectrum can be useful for adding capacity even when supported in only a minority of user devices since traffic can be offloaded to the proportion of devices that can use the new spectrum band, freeing up other bands on the remaining devices that cannot use the new band.

16. The significance of this is that Ofcom has identified three main periods of time in which to conduct its analysis of competition which turn upon when different types of spectrum become available and useable. The first is from the completion of the Auction until the 3.4GHz spectrum becomes useable, a period of "*around two to three years*" (the "first transitional period"); the second is from when the 3.4 GHz becomes useable until the becoming useable of the 3.6-3.8 GHz. ("the second transitional period"); and the third is from about 2022 until c.2027-2032 ("the longer term"). There was uncertainty about precisely when different spectrum would first become

useable. Ofcom's best estimate was that the first transitional period would end in 2019/2020.

(e) The submissions of the parties

17. The principal focus of attack is upon the legality of the caps. H3G argues that the restrictions do not go far enough. BT/EE says that they go too far. Vodafone and Telefónica (whilst making no concessions about the caps) nonetheless argue that they are not unlawful, and that Ofcom should press ahead quickly with the auction since the delays in its inception are holding the market back. In some measure the two claims are mirror images of each other. Both Claimants contend that they (and they alone) are right. The Defendant to each set of proceedings, Ofcom, contends that these submissions reflect the MNOs' commercial positions and they balance each other out and show just how complex and nuanced were the judgment calls that Ofcom had to make and just how reasonable, rational and proportionate the Decision was in the public interest.

18. BT/EE has a further point which is that Ofcom failed to consult on a change in its position relating to what is termed the "*contiguity*" of licences. This challenge refers to the undesirability of MNOs holding licences for spectrum which is not contiguous on the bandwidth; hence the phrase "*split assignments*". In 2015 Ofcom decided that UK Broadband (now a subsidiary of H3G) be required to give up its current split spectrum holdings for reallocation if it wished to participate in the Auction. At some point subsequently Ofcom altered its position and has downgraded the requirement to an option. H3G is not therefore required to submit its split assignments for reallocation as a condition of participating in the forthcoming Auction. BT/EE complains (i) that this change from a requirement to an option was implemented absent any or any proper consultation, and is, accordingly, unlawful; and/or (ii), that the departure from the original decision was in any event wrong on the merits.

19. The Grounds may be summarised as follow:

a) **Ground I (H3G):** The Regulations are not suited to meeting Ofcom's articulated objectives within a reasonable time frame. Ofcom has permitted BT/EE to maintain a spectrum holding materially in excess of 37% following the Auction (and until the end of the second transitional period) in circumstances where it has found that any holding exceeding 37% creates a risk to competition.

b) **Ground II (H3G):** Ofcom acted unlawfully and disproportionately in failing to address and therefore adopt a different (and smaller) denominator (ie the total spectrum pool size) for the spectrum cap which would have met Ofcom's objectives, so that it could achieve and enforce the 37% cap. Ofcom adopted 916.9MHz as the pool. Ofcom should have removed 80MHz of the 700MHz spectrum and thereby identified 836.9MHz as the relevant figure. The 37% cap would therefore have been 310MHz and not 340MHz. This would still have addressed Ofcom's competition concerns and would have been a superior solution.

c) **Ground III (BT/EE):** The imposition of the 37% spectrum cap was unlawful and disproportionate in that: (a) there was no good basis for the conclusion of Ofcom that there was a competition issue in the second transitional period; (b) Ofcom's conclusion that competition harm might ensue from a very high spectrum asymmetry was inadequately evidenced and reasoned; and (c), the imposition of the 37% cap was generally unjustified.

d) **Ground IV (BT/EE):** Ofcom acted unlawfully in failing to consult on the removal of the requirement on H3G to relinquish its split assignment licences as a condition of participating in the Auction and downgrading that to an option.

e) **Ground V (BT/EE):** The decision of Ofcom to remove the requirement on H3G to relinquish its split assignment licences as a condition of participating in the Auction and to downgrade that to an option was unlawful as lacking merit.

(f) Permission to apply for judicial review.

20. When the claims were lodged orders were made linking the claims together and directing that the applications for permission to claim judicial review, and any subsequent hearing of the claim, be rolled-up and heard at the same time. The claims have all been expedited. I indicated to the parties at an early stage (before the oral hearing) that given the general importance of the issue to the UK economy and to the public interest it was appropriate that I simply grant permission to bring the claims. This was to ensure that the hearing focused upon the real issues in the case and time was not spent arguing about whether permission should be granted. I therefore granted permission and this case proceeded as the full hearing of the claims.

(g) Conclusion

21. In conclusion the Decision was properly reasoned and based upon sound evidential findings. I reject all of the claims of H3G and BT/EE. The decision to permit BT/EE a flexible period of time to bring itself within the 37% cap was a deliberate and considered policy decision by Ofcom. On the evidence it made good sense and allowing BT/EE a degree of tolerance to retain a spectrum holding exceeding the 37% cap for a period of time did not present an unacceptable risk to competition and was proportionate (Grounds I and II). For similar reasons BT/EE's argument (Ground III) that the adoption of a 37% cap was neither reasoned nor based on proper evidence is also rejected. BT/EE's objections to the consultation process as it applied to split-assignments fail on the facts and upon their intrinsic merits (Grounds IV and V).

B. The legal framework

(a) Legislative structure

22. The legal framework governing the Auction derives from both European and domestic legislation, namely: (i) The Common Regulatory Framework for electronic communications networks and services, in particular, the Framework Directive and

the Authorisation Directive[1]; (ii) relevant decisions of the European Commission which bind the UK as to the use of the spectrum to be awarded; and (iii), The Communications Act 2003 (the "CA 2003") and the Wireless Telegraphy Act 2006 (the "WTA 2006") which transpose the directives into national law.

23. This case does not turn upon any issue of construction of this legislation. And there is no dispute about the applicability of the overarching principles. I therefore confine myself to setting out a summary only of the legislative structure.

24. Article 8 of the Framework Directive sets out the objectives which national regulatory authorities (such as Ofcom) must take all reasonable steps to achieve. These include: the promotion of competition in the provision of electronic communications networks and services by, amongst other things: ensuring that there is no distortion or restriction of competition in the electronic communications sector and encouraging efficient use of radio frequencies; and, contributing to the development of the internal market by, amongst other things, removing obstacles to the provision of electronic communications networks and services at a European level and encouraging the interoperability of pan-European services.

25. In pursuit of these objectives Article 8 requires national regulatory authorities to apply objective, transparent, non-discriminatory and proportionate regulatory principles by, among others: (i) ensuring that, in similar circumstances, there is no discrimination in the treatment of undertakings providing electronic communications networks and services; and (ii), promoting efficient investment and innovation in new and enhanced infrastructures. Article 8 also stipulates that Member States must ensure that in carrying out their regulatory tasks, national regulatory authorities take the utmost account of the desirability of making regulations technologically neutral.

26. Article 9 of the Framework Directive requires Member States to ensure the effective management of radio frequencies for electronic communications services in accordance with Article 8. It also requires them to ensure that spectrum allocation used for electronic communication services and the issuing of general authorisations or individual rights of use of such radio frequencies are based on objective, transparent, non-discriminatory and proportionate criteria. In addition, it requires Member States to promote the harmonisation of use of radio frequencies across the Community, consistent with the need to ensure effective and efficient use of frequencies. It further requires Member States to ensure technology and service neutrality.

27. Article 5 of the Authorisation Directive states that where necessary to grant individual rights of use of radio frequencies, Member States must grant such rights through open, objective, transparent, non-discriminatory and proportionate procedures (and in accordance with the provisions of Article 9 of the Framework Directive). When granting such rights, Member States are required to specify whether they can be transferred by the holder, and if so, under which conditions.

---

[1] The Common Regulatory Framework comprises: (a) the Framework Directive (Directive 2002/21/EC); (b) the Authorisation Directive (Directive 2002/20/EC): (c) the Access Directive (Directive 2002/19/EC): (d) the Universal Service Directive (Directive 2002/22/EC): and (iv), the Directive on privacy and electronic communications (Directive 2002/58/EC), as amended by the Better Regulation Directive (Directive 2009/140/EC).

28. Article 7 of the Authorisation Directive provides that where Member States limit the number of rights of use to be granted for radio frequencies, they must, *inter alia*, give due weight to the need to maximise benefits for users and to facilitate the development of competition.

29. On 21st May 2008, the EU Commission adopted Decision 2008/411/EC, which sought to harmonise the conditions for the availability and efficient use of the 3400-3800 MHz frequency band for terrestrial systems capable of providing electronic communications services in the EU. On 2nd May 2014, the Commission adopted Decision 2014/276/EU (amending Commission Decision 2008/411/EC) which addressed the technical conditions governing the making available of bandwidth.

30. Any award of the 3.4 GHz band has to be compliant with the Commission Decision. In relation to the 2.3 GHz band, ECC Decision (14)02 sets out harmonised technical and regulatory conditions for the use of the 2300-2400 MHz band for Mobile/Fixed Communications Networks. This particular decision is not mandatory, but in awarding the 2350-2390 MHz frequencies Ofcom was obliged to follow the technical parameters agreed at the European Conference of Postal and Telecommunications Administrations (CEPT).

31. Under the equivalent provisions of domestic law section 3 CA 2003 imposes duties on Ofcom to (i) further the interests of citizens in relation to communications matters; and (ii), to further the interests of consumers in relevant markets by promoting competition. In so doing Ofcom must secure, *inter alia*, the optimal use of spectrum (Section 3(2)(a) CA 2003), the availability throughout the UK of a wide range of electronic communication services and it must take account of the different needs and interests of all current or potential users of the frequencies (Section 3(4)(f)). Ofcom must also have regard to the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed. Under Section 4 CA 2003 Ofcom must act in accordance with the requirements, which give effect to Article 8 of the Framework Directive.

32. Under the WTA 2006 various additional duties are imposed upon Ofcom in respect of the management of spectrum including the duty to have regard to the extent to which spectrum is available, the demand for use of the spectrum, and the demand that is likely to arise in future for the use of the spectrum (cf Sections 3(1)(b) and (c)). Section 3 also requires Ofcom to have regard to the desirability of promoting the development of innovative services and competition in the provision of electronic communications services. It provides:

> Duties of OFCOM when carrying out functions
>
> (1) In carrying out their radio spectrum functions, OFCOM must have regard, in particular, to–
>
> (a) the extent to which the electromagnetic spectrum is available for use, or further use, for wireless telegraphy;
>
> (b) the demand for use of the spectrum for wireless telegraphy; and

> (c) the demand that is likely to arise in future for the use of the spectrum for wireless telegraphy.
>
> (2) In carrying out those functions, they must also have regard, in particular, to the desirability of promoting–
>
> (a) the efficient management and use of the part of the electromagnetic spectrum available for wireless telegraphy;
>
> (b) the economic and other benefits that may arise from the use of wireless telegraphy;
>
> (c) the development of innovative services; and
>
> (d) competition in the provision of electronic communications services. …"

33. Section 14(3B) WTA 2006, in the context of Ofcom's power to make auction regulations, provides:

> "OFCOM must satisfy themselves, in making regulations specifying criteria to be taken into account in deciding whether, or to whom, to grant a licence, that the criteria are—
>
> (a) objectively justifiable in relation to the frequencies or uses to which they relate,
>
> (b) not such as to discriminate unduly against particular persons or against a particular description of persons,
>
> (c) proportionate to what they are intended to achieve, and
>
> (d) in relation to what they are intended to achieve, transparent"

34. In the Decision (ibid paragraph [2.34ff]) Ofcom stated that the duty to further the interests of citizens and competition was "…*of particular importance to the Auction*". In addition, the duties to: optimise use for wireless telegraphy of the magnetic spectrum; encourage investment and innovation; encourage the availability and use of high speed data transfer services throughout the United Kingdom; and, have regard to the interests of consumers in respect of choice, price, quality of service and value for money, were all "*particularly relevant*".

(b) The appellate process

35. I turn now to address issues relating to the nature of the present proceedings which combine features of an appeal with those of judicial review. Article 4(1) of the Framework Directive provides for a right of appeal against decisions taken by national regulatory authorities in the course of which the Court must ensure that the merits of the case are duly taken into account:

> "Right of appeal

> Member States shall ensure that effective mechanisms exist at national level under which any user or undertaking providing electronic communications networks and/or services who is affected by a decision of a national regulatory authority has the right of appeal against the decision to an appeal body that is independent of the parties involved. This body, which may be a court, shall have the appropriate expertise to enable it to carry out its functions effectively. Member States shall ensure that the merits of the case are duly taken into account and that there is an effective appeal mechanism. …" (emphasis added)

36. Under Section 14 WTA a challenge to a decision of the type in issue is by judicial review, rather than appeal to the Competition Appeal Tribunal (CAT) pursuant to section 192 CA 2003.[2] In *T-Mobile (UK) Ltd v Ofcom* [2008] EWCA Civ 1373 ("T-Mobile"), Jacob LJ held that in an appeal under Article 4(1) of the Framework Directive, the same standard of review would be applicable in a judicial review as it was in a merits appeal to the CAT: "… *just as judicial review was adapted because the Human Rights Act 1998 so required, so it can and must be adapted to comply with EU law and in particular article 4 of the Directive*" (see paragraphs [29] and [30]). In a judicial review the Court applies the standard of review set out in section 195(2) CA 2003 Act viz., to "*decide the appeal on the merits*": *EE Limited v Ofcom* [2016] EWHC 2134 (Admin) ("EE") at paragraph [109].

37. The phrase "*appeal on the merits*" was considered in *British Sky Broadcasting Limited & ors v Ofcom* [2012] CAT 20 ("BSB") at [84]:

> "…we consider that the following principles should inform our approach to disputed questions upon which Ofcom has exercised a judgment of the kind under discussion:
>
> (a) Since the Tribunal is exercising a jurisdiction "on the merits", its assessment is not limited to the classic heads of judicial review, and in particular it is not restricted to an investigation of whether Ofcom's determination of the particular issue was what is known as Wednesbury unreasonable or irrational or outside the range of reasonable responses.
>
> (b) Rather the Tribunal is called upon to consider whether, in the light of the grounds of appeal and the evidence before it, the determination was wrong. For this purpose it is not sufficient for the Tribunal simply to conclude that it would have reached a different decision had it been the designated decision-maker.
>
> (c) In considering whether the regulator's decision on the specific issue is wrong, the Tribunal should consider the decision carefully, and attach due weight to it, and to the

[2] Paragraph [40] of Schedule 8 to the 2003 Act identifies *"a decision given effect to (a) by regulations under section … 14 [of the 2006 Act]"* as a decision not falling within the jurisdiction of the CAT under section 192 CA 2003.

> reasons underlying it. This follows not least from the fact that this is an appeal from an administrative decision not a de novo rehearing of the matter, and from the fact that Parliament has chosen to place responsibility for making the decision on Ofcom.
>
> (d) When considering how much weight to place upon those matters, the specific language of section 316 to which we have referred, and the duration and intensity of the investigation carried out by Ofcom as a specialist regulator, are clearly important factors, along with the nature of the particular issue and decision, the fullness and clarity of the reasoning and the evidence given on appeal. Whether or not it is helpful to encapsulate the appropriate approach in the proposition that Ofcom enjoys a margin of appreciation on issues which entail the exercise of its judgment, the fact is that the Tribunal should apply appropriate restraint and should not interfere with Ofcom's exercise of a judgment unless satisfied that it was wrong."

38. In the context of an appeal from a decision under section 316 CA 2003, these observations were endorsed: See *British Telecommunications Plc v Ofcom and others* [2014] EWCA Civ 133 at [88] *per* Aikens LJ; and they were also subsequently endorsed by the CAT in the context of an appeal under section 192 CA 2003 against a dispute determination in *British Telecommunications Plc v Ofcom* [2014] CAT 14 at [67].

39. The arguments raised in this case have included recourse to the "*merits*", and shed light on how the legislative instruction to take account of those merits and decide the judicial review as if it were a merits appeal to the CAT, operates in practice. In the light of the arguments and submissions advanced I set out below my conclusions on the approach that I adopt to determine the claims.

40. The first point is that, as set out in case law (*T-Mobile* paragraphs [28] and [31]; and *EE* paragraph [109]), this is not a *de novo* hearing on the merits; it is a challenge to Ofcom's Decision. It is for this reasons that the test set out in case law focuses upon the negative ie whether the Decision is materially wrong. The Decision is the centre point of the challenge and must be the target of any challenge; there is no blank canvas upon which the parties can paint a new picture which fails to heed the reasoning in the decision under challenge.

41. The second point concerns the task confronting the court. This will depend upon factors such as: (i) the nature of the decision being challenged; (ii) the nature of the ground of challenge; and (iii), the nature of the evidence needed and relied upon to advance the challenge. Each of these points warrants additional consideration.

42. Nature of Decision: All decisions subject to judicial review are different: Some may turn upon a narrow category of clear and certain facts and involve little by way of a judgment call. The determination of a tax or customs charge might be an illustration (eg *Walapu v HMRC* [2016] EWHC 658 (Admin) at paragraphs [168]- [170]). But other decisions might require the decision maker to take into account a very wide

range of facts or predictions about facts which may themselves be characterised by uncertainty leading to the exercise of a judgment call involving the balancing of many conflicting and possibly ephemeral considerations. The present Decision sits at the extreme end of the uncertainty scale. It is characterised by its predictive (*ex ante*) nature and the very large number of imponderables that Ofcom had to form a specialist and technical judgment about. Ofcom's difficult task was to come to conclusions about those uncertainties and then translate them into a single, fixed, threshold figure for the purposes of drafting a suitable Regulation. The uncertainties were legion and included: who would win what during the Auction; how the market would evolve in the future (which itself was an exercise replete with assessments about future uncertain events, such as when consumer devices would be capable of using particular types of spectrum, when 5G would be rolled out, the rate at which demand would increase, etc); the extent to which smaller MNOs could circumvent problems associated with being deprived of spectrum; the sorts of commercial practice that would be feasible in the market in the future on the part of a very large MNO and what the impact of such practices might be; when new spectrum would become useable, etc. The nature of the exercise is important because it highlights the extent to which Ofcom was compelled to rely upon expert judgment to arrive at the Decision. It also highlights that Ofcom could have selected a number of different solutions, all of which would be equally consistent with the proper exercise of judgment on its part.

43. The grounds of challenge: In this case the Grounds (see above at paragraph [19]) vary in their nature. Grounds I – III have been advanced as traditional judicial review arguments focusing upon the logic and reasoning of the Decision, and whether Ofcom failed to take account of relevant considerations (though both Mr Turner QC and Mr Beard QC at various junctures invited me to consider the "*merits*" of their arguments). Ground IV is an essentially procedural challenge to the fairness of the consultation process. Ground V is different and amounts to an invitation to the Court to conclude that Ofcom simply got it wrong, on the merits. There is no difficulty in addressing any of Ground I – IV by recourse limited to normal principles of judicial review. In relation to Ground V the extent to which merits can be taken into consideration will depend upon the nature of the Decision (see above) and the evidence tendered by the Claimant (see below).

44. Nature of evidence tendered: The evidence which has been considered by Ofcom over the years in order to arrive at the Decision is compendious. Only a tiny fraction has been prayed in aid of the Grounds. The Court cannot be expected or required to conduct its own research. It must rely upon the evidence identified by the parties. This does not however imply that the Court will ignore the totality of the relevant evidence behind the impugned decision. The Court might well have to consider an argument that the decision is inadequately evidenced by putting the evidence highlighted by the Claimant into the broader context of the evidence as a whole.

45. Mr Fordham QC (for Vodafone) and Ms Rose QC (for Ofcom) submitted that modern principles of judicial review (and in particular the test of proportionality) were increasingly flexible and capable of incorporating any statutory instruction to take account of merits. There was hence no need to create a hybrid category of judicial supervision. In large measure I agree. The statutory instruction to take into account the merits can be factored into the traditional approach. It can for instance be used as

a sanity check on the end result of the analysis and/or it can feed into the assessment of the materiality of any breach of public law principles which is, *prima facie*, found. If necessary, it can lead the court simply to apply a somewhat heightened intensity of review. In *BSB* the CAT queried whether it was proper, in a merits appeal, to talk in terms of the decision maker's margin of appreciation (see paragraph [37] above). In my view it is a relevant consideration, but the Court's supervisory task includes modulating the intensity of the review in line with all surrounding factors, such as those described above.

C. Developments leading up to the Auction

(a) The Decision: Present spectrum holdings

46. Spectrum holdings can be divided into: (i) that portion which is *immediately* useable and (ii) that which is useable *at some future point,* but which is presently held by an MNO (see paragraph [15] above).

47. The holdings of *immediately useable* spectrum by each MNO, as set out in the Decision (Figure [6.1] as follows:

    a) BT/EE has 42% of spectrum which is immediately useable. This assumes that the spectrum held in the 1400MHz band is properly classified as immediately useable. Ofcom assumes that it is because the band is presently enabled by a number of handsets available to consumers and will be useable during 2018. If the 1400MHz spectrum is excluded the holding of BT/EE is 45%.

    b) Vodafone holds 29%.

    c) H3G holds 15%.

    d) O2 holds 14%.

48. In relation to all spectrum currently allocated to MNOs that Ofcom anticipated (Decision Figure [5.1]) being useable for mobile services either now or in the foreseeable future (and which therefore includes spectrum not immediately useable) the holdings of the MNOs were as follows:

    a) BT/EE holds 35%.

    b) H3G holds 29%.

    c) Vodafone holds 24%.

    d) O2 holds 12%.

(b) The proposal to hold an auction of the new spectrum capacity

49. The Decision records Ofcom's decisions for the award of wireless telegraphy licences for use of (a) 40MHz in the 2.3 GHz band (2350-2390 MHz) and (b) 150MHz in the 3.4 GHz band (3410-3480 MHz and 3500-3580 MHz). This spectrum has been

released by the Ministry of Defence as part of the Public Sector Spectrum Release ("PSSR") Programme. The spectrum is to be awarded by means of the Auction.

50. Demand for mobile data has increased substantially in recent years due to the rapid take-up of smartphones and tablets and the ability of such devices to deliver ever more services. Over the five years to 2017, demand expanded at a cumulative annual rate exceeding 50%. Ofcom expects increases of this magnitude to continue into the future. Accurate projections are hard to achieve but there is a broad consensus that data consumption will increase by a factor of between 10 and 100 in the period to 2027. This will impose pressure on MNOs to increase capacity.

51. The most obvious way to increase capacity is by the acquisition and deployment of incremental radio spectrum. In the Auction Ofcom will award 190 MHz of additional spectrum, thereby increasing the total amount of mobile spectrum available to operators from 647 MHz to 837 MHz, which represents an increase of 29%.

52. In line with the approach taken now over many years, given that demand is likely to exceed (significantly) the amount of spectrum available, the policy is to permit the market to determine the optimal allocation by means of an auction so that (according to economic theory) the MNO that places the highest value on the spectrum and thus bids the highest will be the one most likely to utilise the capacity (ie the frequencies) most efficiently to deliver the services consumers want. Nonetheless, an unfettered approach might cause adverse consequences for consumers even though an auction outcome may *prima facie* facilitate the optimal provision of services. If (say) the auction left one or more MNOs with insufficient spectrum to compete strongly and impose competitive disciplines on the larger MNOs, then consumers could face higher prices, and other operators might have reduced incentives to price competitively, innovate and invest. For reasons such as this it is incumbent upon the regulator to use its judgement to balance the competing interests of a free and unfettered auction with the risks that possible outcomes might lead to the market working less than optimally for consumers. There is a balance to be struck. The regulator must: "… *find an appropriate balance between the benefits of spectrum being won by the operators with the highest value and the aim of ensuring strong competition between operators*" (Decision paragraph [1.13]).

53. Any exercise designed to strike an appropriate balance must take as at least one of its starting points an assessment of current market health. If the market is working well *notwithstanding* that the competing MNOs might have widely divergent (asymmetrical) spectrum holdings, then this might indicate that less intervention is required than a health check which leads to the conclusion that the present state of asymmetry is already causing competition related problems. In the present case the conclusion of Ofcom, which none of the parties to this litigation have specifically challenged in this litigation[3], is that the market is working well: "… *the UK mobile*

[3] A point arose out of comments made by H3G on the draft judgment which I should clarify. When, in this judgment, I observe that none of the parties have challenged the fact that the market is working well I am referring *only* to the absence of a formal challenge (ie a pleaded Ground of review) which specifically invites the Court to rule that this evidential conclusion made by Ofcom is incorrect. In respect of the finding in the Decision that the market was working well, notwithstanding BT/EEs present spectrum holding, H3G did not specifically invite the Court to rule that the market was working inefficiently as part of its pleaded Grounds. These, as set out in the judgment, proceeded

market is generally working well with four MNOs competing strongly. Prices remain relatively low compared with other countries and there is a significant level of investment in new products and services" (Decision paragraph [1.14]).

(c) The November 2016 Consultation proposal

54. In November 2016 Ofcom consulted on the risks to competition associated with the auctioning of the 2.3 and 3.4 GHz spectrum ("the November 2016 Consultation"). It identified two concerns which were, in essence: (a) that the Auction could lead to one of the smaller MNOs becoming non-credible; and/or (b), that even if after the Auction all MNOs remained credible there would *still* be competition concerns which could lead to adverse consequences for consumers in the future.

55. It is well established in relation to the law on consultation that a putative decision maker can have a predisposition but should not have predetermined the outcome. In the November 2016 Consultation Ofcom sets out its provisional views. These can be summarised as follows:

a) There was a risk that the current level of competition in the UK market could reduce as consumer demand for mobile services increases.

b) Asymmetry in the amount of spectrum held by different operators meant some operators might be in a stronger position to respond to increased demand than others.

c) Absent restrictions built into the Auction Regulations this asymmetry could become accentuated.

d) The concern was greater in respect of the 2.3 GHz band than the 3.4 GHz band. The 2.3 GHz band would be useable immediately following the Auction because it was already supported by mainstream mobile devices. The 3.4 GHz spectrum was not currently supported, and by the time it became useable Ofcom expected other spectrum to be available at 700 MHz and potentially at 3.6-3.8 GHz. The award of these spectrum bands in the future could address competition issues, if this was necessary.

e) If BT/EE won all the 2.3 GHz frequencies being auctioned it would hold nearly 50% of the immediately useable mobile spectrum in the UK (49%, excluding the 1400 MHz band).

---

upon different legal premises and were not contingent upon such a ruling by me. Nonetheless, I recognise that H3G does not accept that the market is in fact operating satisfactorily. It has submitted evidence to Ofcom making this point in the past and H3Gs witness statement evidence in these proceedings also makes this clear. The same may be said of other MNOs, such as Vodafone and O2, who explained that whilst they did not necessarily agree with everything that Ofcom said or found, they did not accept that there were proper Grounds for challenging the Decision. I should therefore confirm, for the avoidance of any doubt, that nothing in this judgment is to be taken as implying any *general* acceptance by *any* party that a finding made by Ofcom in the Decision is necessarily agreed with.

f) MNOs with smaller spectrum would have an opportunity to bid for the 2.3 GHz spectrum and might place a high valuation on that spectrum. However, an MNO with a large spectrum share might attach an even higher valuation upon the capacity not because it would use the spectrum more effectively but because by keeping it away from rivals it would benefit from competition in the mobile market being weaker.

g) In these circumstances there was a significant risk to competition.

h) In view of the statutory duties on Ofcom it was appropriate to consider intervention in the market to address these concerns. The level of intervention should be the minimum necessary to achieve the policy objectives effectively.

i) The proposal was to set a cap of 255 MHz on the amount of immediately useable spectrum any operator could hold. This would mean, given the level of BT/EE's current mobile spectrum holdings, that BT/EE would be prohibited from bidding for the 2.3 GHz spectrum. This would increase the chance that the MNOs with the smallest spectrum shares (O2 and H3G) could win spectrum (if they needed it).

j) There would be no restriction on bidding for the 3.4 GHz band. It was not immediately useable. It had potential for delivering 4G services and was likely to be used in future to launch new 5G services. Ofcom did not wish to hinder innovation and the development of high quality 5G services if operators needed large contiguous blocks of spectrum to achieve that.

k) Ofcom identified alternative means by which MNOs could adapt their strategies to meet consumer demand in the longer term, including: the wider use of '*small cells*' which enabled an operator more intensively to use spectrum; and the availability and useability of alternative spectrum on similar timescales to the 3.4 GHz spectrum, such as in the 700 MHz band and potentially in the 3.6-3.8 GHz bands, to address issues of very asymmetric spectrum holdings arising from a 2.3 and 3.4 GHz award.

l) It might however be appropriate to impose restrictions in addition to those affecting the 2.3 GHz band if the 3.6-3.8 GHz band was likely to be useable materially later than the 3.4 GHz spectrum.

(d) Changes in the market following the November 2016 Consultation

56. Ofcom received 30 responses to the November 2016 Consultation. In addition, certain events occurred in the following period which Ofcom had to take into account in the final Decision (see Decision Section 5). These were as follows.

57. First, in May 2017 H3G completed the acquisition of UK Broadband which gave H3G access to 2 separate lots of 20MHz each of mobile spectrum in the 3.4 GHz band (ie 40MHz in total) and 84 MHz in the 3.6-3.8 GHz band. H3G now had a significantly

increased share of overall mobile spectrum which would be useable in future. Ofcom concluded that this greatly reduced any concerns about the effect on competition of H3G's medium to long-term capacity.

58. Second, Ofcom concluded that both the 3.4 GHz and the 1400 MHz spectrum would be useable for mobile earlier than hitherto anticipated. Commercial deployment of the 1400 MHz band had started in Italy. H3G and Vodafone each held 20 MHz of spectrum in this band and Ofcom considered that H3G would be able to deploy these frequencies from 2018 (during the period before the 3.4GHz band was useable).

59. Third, Ofcom was less confident that the 3.6-3.8 GHz band would be fully useable on an equivalent timeframe to the 3.4 GHz band than in November 2016. Under the proposed approach it was likely that it would be feasible for MNOs to launch mobile services in the 3.6-3.8 GHz band in many areas from around 2020, but not necessarily nationwide before 2022. Ofcom stated: "*This affects our analysis of the extent to which we can rely on the 3.6-3.8 GHz band to address any future competition concerns that might arise as a result of this award. It is therefore relevant to our assessment of the competition measures appropriate for the Auction."* (Decision paragraph [1.28, see also paragraph [5.29]).

60. Fourth, Ofcom identified "*credible evidence*" that MNOs could be less able than initially considered to adapt networks to increase capacity without additional spectrum. Confidential evidence has been placed before the Court which elaborates upon this. I do not set it out here. Ofcom stated that this: "*means we have slightly greater concerns about the effect on competition of very asymmetric spectrum shares – although we do consider there is a low risk that the credibility of any MNO is threatened*." (Decision paragraph [1.28] see also paragraph [5.55]).

D <u>The Decision: Addressing the competition concerns</u>

(a) Introduction

61. I turn now to the Decision itself. The challenges of H3G and BT/EE turn in large measure upon the cogency and logic of the reasoning adopted by Ofcom in that Decision. Ofcom set out its analysis of the competition concerns flowing out of the risks of the competition concerns arising out of accentuated spectrum asymmetry as an outcome of the Auction and its conclusions as to the restrictions needed to be imposed on the ability to bid in an unconstrained way if the risk was to be obviated. In the text below I set out a summary of the Decision on the issues of relevance to these judicial reviews.

(b) Ofcom's conclusions on the competitiveness of the present market - market health

62. An important starting point was that the market was, presently, working well, *notwithstanding* the considerable asymmetry in spectrum holdings between BT/EE and its rivals: "… *the market appears generally to be working well for consumers currently*…" (Decision paragraph [6.49]). BT/EE's spectrum holdings are set out at paragraphs [47] – [48] above. Annex 1 to the Decision contains Ofcom's conclusions on the "*Current state of the UK mobile market*". These conclusions were arrived at following the receipt of extensive factual, economic, statistical and econometric

analysis of such matters as subscriber pricing, market shares and pricing trends. The analysis covered: recent changes to the structure of the market; development in the retail and wholesale mobile markets; the evolution of UK mobile pricing; mobile revenues; the effects of spectrum shares on competition; international comparisons of network quality.

63. The Annex summarised Ofcom's conclusion as set out in the November 2016 Consultation:

> "A1.8 Based on that evidence we argued that the UK mobile market was currently working well for consumers and businesses, with strong competition between the different MNOs. We considered that the UK enjoyed relatively low prices when compared to other countries, whilst seeing significant levels of investment in new products and services.
>
> A1.9 As evidence of the strong competition between MNOs we argued that O2 and H3G had continued to increase their market share over the years (despite having much smaller shares of spectrum than the other MNOs) while market concentration indices had continued to decrease since the merger between 2010 Orange and T–Mobile.
>
> A1.10 We also showed that prices of most SIM-only baskets decreased over the 2013-2016 period. One notable exception was the highest usage SIM-only basket, which reflected H3G's price increases for its plans with unlimited data allowance. For plans with handsets the evidence was mixed with some baskets experiencing price increases followed by price decreases. We argued that these variations could be due to increased prices for some handsets as well as additional costs for 4G packages.
>
> A1.11 We also argued that both our own international pricing benchmarks as well as those of the EC show that prices in the UK are lower than other comparable countries.

64. Ofcom subsequently updated the data it had used to form its earlier conclusion and also expanded upon the previous analysis of the evolution of the wholesale market and included a section on international comparisons of network quality. Upon the basis of this updated and expanded analysis Ofcom re-affirmed that despite the allocation of mobile spectrum between the four MNOs being very asymmetric, competition was "*generally working well*".

65. It is not necessary to go through every finding in the Annex. Some of the most significant were those relating to pricing, MNO revenue growth trends, and the nexus between spectrum holdings and market share. On these key facets of competition Ofcom concluded: (i) "… *mobile prices in the UK are relatively low compared to international benchmarks based on our own analysis as well as the international comparison carried out by the EC*" (Decision paragraph [A1.233]); (ii) most MNOs

had positive revenue growth in the last 2 quarters (Decision paragraphs [A1.234ff]) and the "*average cash flow margin across the UK MNO's was around 12%, which appeared to be healthy at a time when operators were investing in 4G rollout*" (ibid paragraph [A1.241]); and (iii), the ability of MNOs to compete and to increase their market shares to date had not been driven purely by their share of spectrum holdings. H3G and O2 (the smallest spectrum holders) were the two MNOs that had generally increased their market share of network subscribers in recent years, including the subscribers of hosted MVNOs (Decision paragraph [A1.245]). There was no automatic correlation between subscriber share and mobile data traffic (Decision paragraph [A1.248]).

66. Since Ofcom's conclusion on the relationship between spectrum holding and market share is relevant to various of the arguments advanced I should say a little more about Ofcom's position. If spectrum holding *was* equivalent to market share, then it would be a strong indicator of market power which, itself, is highly significant in determining the risk of harm to competition and consumers by the possessor of that market power. Ofcom therefore examined the link or nexus between spectrum holdings and market performance. This included an assessment of whether MNOs needed the same capacity as each other (symmetry) to be strong competitors. MNOs with lower spectrum holdings had other ways in which to compete effectively (Decision paragraph [6.45]). For instance, the two MNOs with the smallest spectrum holdings (H3G and O2) had "*generally gained subscribers in recent years, whilst prices have remained relatively low compared to international benchmarks, and there is a significant level of investment in new products and services*" (ibid paragraph [6.56]). In the November 2016 Consultation Ofcom expressed the view that the link between spectrum holding and market share/power was not that important. In the Decision Ofcom modified its view somewhat accepting that for some MNOs increased spectrum could be more important for future market performance than it had hitherto considered. Based in part upon an analysis of the position in Europe, markets shares can vary considerably and often are "… *not strongly related to spectrum shares*". (Decision paragraph [6.46]). The ultimate conclusion was necessarily a more nuanced, moderated, one: Spectrum capacity was not a precise proxy for market share or market power, but it was nonetheless relevant and important to future market performance especially in a market where demand was rapidly growing and 5G was imminent. Calibrating the exact strength of the linkage was not straightforward. It could not be said, without qualification, that if (say) BT/EE were to win all or most of the spectrum being auctioned this would commensurately increase its market power (and the concomitant risk of harm to competition) <u>but</u> the risks of accentuated asymmetry were still substantial.

67. An important caveat to Ofcom's assessment was that whilst the market was presently or currently competitive there was no guarantee that it would remain so into the future (setting aside issues of new capacity coming on stream). For instance, in Annex 8 at paragraph [A8.152] (in relation to the position of O2 following the first transitional period) Ofcom observed that it "…*attached less weight to the current market position, as this can change over time*". The health check was thus essentially static and not intended to be a lasting appraisal of how the market would evolve in the future. It was not contended by any party to the litigation that this conclusion was incorrect or an unfair reading of the logic of the Decision.

68. I address now a particular point which was the subject of disagreement between the parties during the various consultations processes which preceded the Decision. This concerns the relevance of data speed to competition. It is accepted that capacity (for a given number of users of a network) determines the average data speeds that users received. In response to the November 2016 Consultation BT/EE referred to market research suggesting that data speeds were not a key driver of competition and that they were no more important than other aspects of a consumer's mobile package, such as content subscriptions, which could be replicated by any MNO. Vodafone had argued along similar lines. Other MNOs argued that data speed was "*particularly important"* and would continue to be so in the future (Decision paragraph [6.24]). Ofcom's analysis is set out in Annex 2 of the Decision. Ofcom recorded that there was likely to be a very high growth in demand for data over the foreseeable future. Data speed was one factor affecting retail competition, but was "*far from being the only factor*" (Annex 2 paragraph [A2.25]). Speed could however become more important over time.

> "6.26 Nevertheless, because speeds are *a* factor that drives competition, it is our view that competition concerns may arise due to differences in MNOs' ability to add capacity if there are very asymmetric spectrum shares. If some MNOs were only able to provide average speeds that were materially lower than those of rivals, we consider that competition could become weaker than it might otherwise be. We recognise that it may not strictly be 'average speed' that matters, but rather being able to provide sufficient speeds to consumers for the services they are demanding. This will vary depending on the applications they are using. We use the term 'average speed' as a useful short hand for this."

69. Having concluded that MNOs needed to acquire capacity to meet growing demand for data Ofcom considered whether this demand could be met absent new capacity. In Annex 7 to the Decision Ofcom explained that one reason why competition could remain strong even where there was significant divergence in spectrum holdings was that "*MNOs can choose to use their capacity in different ways. This diversity of commercial choices and spectrum holdings can benefit consumers*" (ibid paragraph [A7.1]). Nonetheless, Ofcom accepted that MNOs with lower spectrum shares tended to have higher marginal costs (in the form of build out costs to add capacity) and this could deter incentives to compete and/or lead to the service being offered becoming less attractive to customers. The end conclusion was, like so many other aspects of the analysis in this case, nuanced. The relative importance of data speed was not as binary as the parties suggested. Data speed was important but not pivotal. Spectrum was important to data speed. Smaller MNOs had alternative ways to get around the problem of shortage of spectrum, but these were not always effective and the ability to find such methods would diminish over time. In short the obtaining of new spectrum by smaller MNOs was important to the future competitiveness of the market.

(c) The identification of generalised, "in principle", risks to competition flowing from spectrum asymmetry

70. Central to Ofcom's reasoning is the competition and consumer harm identified as arising out of the types of anticompetitive conduct and behaviour that could be engaged in by a large MNO in a market characterised by very asymmetrical spectrum holdings. It described these as "*in principle*" competition concerns (Decision paragraph [6.21]). It examined the issue from two perspectives. First, from the perspective of an MNO with a very large spectrum asymmetry in its favour; and second, from the perspective of smaller MNOs who lacked equivalent capacity and who were subject to competition from larger MNOs. It is important in these proceedings that no-one challenged Ofcom's conclusions on the sorts of conduct and behaviour that could "*in principle*" be engaged in by an MNO with a very large asymmetric spectrum holding.

71. Ofcom examined four types of "*in principle*" conduct: (i) strategic bidding; (ii) superior service flowing out of unmatchable competition; (iii) various types of price discrimination or differentiation; and (iv), spectrum hoarding. In relation to competition concerns arising from the conduct of possessors of much smaller holdings of spectrum Ofcom examined two types of issue: (i) the consequences for the ability to compete of having higher marginal costs; and (ii), the ability to find alternative methods to compete.

72. Ofcom recognised that the two perspectives were "*inherently"* interrelated (Decision paragraph [6.29]). I address each of the "*in principle"* practices below. I start with Ofcom's concerns about the behaviour of MNOs with very large asymmetrical spectrum holdings.

The advantages of accentuated asymmetry: Strategic bidding

73. "*Strategic bidding*" is a competition concern that arises in "*bidding markets*" where some form of a procurement or bidding process can determine the future competitive landscape. In the present case the scarcity of the resource being bid for and its importance to future market performance indicated that it might be rational for a bidder to bid for spectrum with the purpose of foreclosing that capacity to its rivals. Such a bidder would calculate the size of its bid upon the incremental profits that it could earn by depriving rivals of spectrum. This is to be contrasted with "*intrinsic*" or "*use*" based valuations where the bidder determines the size of its bid taking into account the incremental profits that it expects to be able to earn from its own, *actual,* use of that spectrum. Of course, in a given case the value of a bid might reflect a combination of strategic and intrinsic considerations: A bidder might bid high to secure more than its immediate needs thinking that having spare capacity in the bank would be useful in the future, but would also have the added advantage of keeping rivals away from it. Competition concerns can in fact arise regardless of the motivation behind the bidding strategy.

74. In economic theory strategic bidding is generally considered to be unambiguously harmful to competition; whereas bidding on intrinsic or use based grounds is more equivocal and might be beneficial *or* harmful. Ofcom states in the Decision:

> "6.11 Competition concerns may arise from auction outcomes driven by either intrinsic or strategic value bidding, and the nature or existence of the potential trade-off for consumers may be affected by the basis for bidding valuation:
>
> • If competition is weakened as a result of bidding based on strategic investment value, there is no trade-off, and the outcome is unambiguously harmful for consumers.
>
> • If competition is weaker due to bidding based on intrinsic values, there is generally a trade-off because there is likely to be an offsetting benefit from the spectrum being won by the operators who will make best use of it. The net effect for consumers may be positive or negative."

The advantages of accentuated asymmetry: Superior service flowing out of unmatchable competition

75. Ofcom next identified concerns that an MNO with a high spectrum share might be in a position to offer superior services that rivals were unable to replicate. This could arise if an MNO won more spectrum than its immediate requirements and then used the surplus to offer a service that no one else could match, because they lacked sufficient capacity:

> "6.31 …This might include being able to launch a new mobile service that requires unused spectrum or a higher speed service that requires a large amount of spectrum. If other operators were unable to provide such services due to not having available spectrum, they might be unable to compete strongly for some customers (such as early adopters of new technology or consumers with especially high data demands). The rival operators might face a significant competitive disadvantage for such customers, at least for a period of time (such as until they can re-purpose or refarm their existing spectrum, acquire more spectrum, or find alternative ways to meet the demands of the specific customer group).
>
> 6.32 The consequence could be that, for the relevant customers and/or period of time, competition is weakened. While there might be benefits to some consumers from the superior services, the harm to competition, and therefore to consumers as a whole, could outweigh those benefits."

76. Later, Ofcom made a similar point about the fact that the large MNO might be able to launch new services *earlier* than rivals with smaller spectrum holdings which could also lead to ambiguous consequences for competition and consumers:

> 6.36 Having excess spectrum capacity might, in our view, also allow an MNO to be better placed to launch new services

> earlier than its competitors. For example, it could use its spare spectrum to launch a new service rapidly, leaving its other services unaffected, whereas rivals might need to refarm some of their existing spectrum, potentially to the detriment of their legacy services. Again, although customers of the MNO with a very high spectrum share might benefit from earlier availability of new services, there could be weaker competition and overall consumer harm.

The advantages of accentuated asymmetry: Price discrimination and differentiation: High and low pricing policies / threats

77. Ofcom next focused upon the pricing options open to a MNO favoured with very large spectrum asymmetry. Ofcom identified the ability to offer both high and low prices and the possibility of the large MNO using the threat of the deployment of new capacity to deter aggressive competition from smaller rivals.

78. As to high prices Ofcom identified the possibility that the large MNO could charge high prices to those customers or market segments where competition was weak, because smaller MNOs with lower spectrum holdings could not compete effectively or aggressively. This gave the large MNO the commercial leeway to set prices at levels that would not be eroded downwards through competition.

79. As to low prices Ofcom identified the possibility that the large MNO could charge aggressively low price targeted upon those customers and segments where rivals were most active. It follows from Ofcom's conclusion that in some segments the large MNO could charge high (supra-competitve) prices and that it could use extra profits from such sales to cross-subsidise low prices to other customers.

80. In relation to threats Ofcom highlighted the risks associated with a policy of using or threatening to use additional capacity as an accompaniment to an aggressive price campaign, which could have the effect of scaring off rivals from competing aggressively with the large MNO:

> "6.35 For example, it could have – or threaten to have – additional network capacity in place to be able to absorb an increase in its customer base quickly, by winning a significant number of customers from its competitors. The threat of provoking such a response may put rivals off seeking to compete more aggressively, and lead to a softening of competition for some services."

The advantages of accentuated asymmetry: Spectrum hoarding

81. Finally, Ofcom identified the risk of spectrum hoarding whereby an MNO with a very high spectrum share could make limited use of additional spectrum it won, denying that spectrum to other MNOs who might have put it to immediate or productive use. This could weaken competition in the short/medium term during which other MNOs might have competed more strongly if they had won that capacity instead of the large MNO (Decision paragraph [6.38]).

The disadvantages of accentuated asymmetry: Higher marginal costs

82. I turn now to the other end of the scale, namely the position of smaller MNOs. Ofcom concluded that competition could be weaker if one or more MNOs had a relatively low share of spectrum. MNOs with small spectrum holdings generally had higher marginal costs of adding capacity than operators with large holdings because they would need to construct significantly more sites to increase capacity in contrast to an MNO with a high spectrum share who could, for example, deploy additional spectrum on its existing sites. BT/EE challenged this proposition. Ofcom set out in Annex 11 to the Decision why it rejected BT/EE's analysis. In consequence an MNO with a small holding might have reduced incentives to compete aggressively for new customers; and its services could become less attractive to its existing customer base compared to the services being offered by the larger MNO, especially in the context of growing consumer demand for more data, faster speeds and new services (cf Decision paragraph [6.39]).

The disadvantages of accentuated asymmetry: The ability of smaller MNOs finding alternative means to compete

83. The actual extent to which competition might suffer would then depend upon the ability of smaller MNOs to find alternative means to maintain their competitive position. If the disadvantages of smaller holdings could be circumvented, then the competition concerns related to anticompetitive conduct by a large MNO diminished. Ofcom received detailed submissions from the parties on this. BT/EE disputed the basic premise that there were higher marginal costs and argued that there were many ways to work around capacity shortages. O2 and H3G argued that there were substantial problems in substituting new sites for capacity shortages. Ofcom did not accept BT/EE's argument. Nor did it accept the economic analysis of O2 and H3G in its entirety (considering that their concerns were exaggerated). Nonetheless, and importantly, on balance Ofcom accepted that it could be "…*technically challenging to keep adding sites to substitute for spectrum and that the marginal costs of doing so may be higher than for rivals with more spectrum*" (Decision paragraph [6.43]).

(d) The importance of capacity and the specific risks to competition from very asymmetrical spectrum holdings

84. I turn from the general to the specific which is the application of the above general principles to the facts of the present case.

The parameters of the analysis

85. Ofcom set out some parameters to its analysis. These concerned: (i) their principal policy objectives; (ii) the types of issue expected to arise from very high asymmetrical holdings; and (iii) the timeframes for the actual analysis.

86. As to the principal policy objectives for the 2.3 and 3.4 GHz award, these were: first, to make the spectrum available in a timely manner to meet consumer demand; and second, to ensure that consumers and businesses continued to benefit from a competitive market in the provision of mobile services. An important issue is the relative importance of these two objectives. It is right to say that it is treated as an article of faith that auctions were considered the optimal way to allocate scarce

resources and to achieve a market price. For this reason, Ofcom accepted that all things being equal it would not readily deviate from the paradigm of an open auction free of constraints and restrictions. BT/EE in its expert evidence sought to elevate the idea of an open and unfettered auction into a principle of unsurpassable importance. Mr Brian Williamson, an economist, argued that there *"...would need to be a compelling case for departing from an auction as the means of allocating spectrum, including via the imposition of spectrum caps which limit the ability of one or more bidders to express their market valuation of additional spectrum*". Ofcom, whilst acknowledging the importance of open and unfettered auctions, pointed out that BT/EE's argument found no support in the language of the CA 2003. In this Ofcom is correct. No primacy is given to one policy consideration over another: how they balance out in a given case will be fact-specific and the answer does not bend to pre-ordained presumptions. Ultimately, Mr Beard QC, for BT/EE, accepted that Mr Williamson's argument was an economic one, not a legal one. He acknowledged that where the balance lay was a judgment call for the regulator.

87. As to the consequences that could arise from very asymmetrical holdings Ofcom classified its concerns under two headings. The first was that competition between the four existing MNOs could be harmed (**Competition Concern 1**). The second was that there would be a loss of a credible MNO leaving only three competitors on the market (**Competition Concern 2**).

88. In relation to timeframes Ofcom identified three periods for the analysis of its Competition Concerns:

a) The **first transitional period** from immediately after the 2.3 and 3.4 GHz Auction until the time at which the 3.4 GHz spectrum is useable. During this period Ofcom expected that the 2.3 GHz and 1400 MHz spectrum would be useable, but the 3.4 GHz spectrum would not be. Ofcom expected the first transitional period to last for around two - three years.

b) The **second transitional period starting** when the 3.4 GHz was useable and lasting until the 3.6-3.8 GHz became useable. Ofcom expected 80 MHz in the 700 MHz band to be useable in this period.

c) The **longer term** referring to the period after the 3.6-3.8 GHz became useable until up to 5-10 years in the future which Ofcom stated was the limit of the timeframe for the purpose of the competition assessment.

Competition Concern 2: The risk that 4 MNOs become 3

89. It is convenient to start with the second concern since Ofcom ultimately dismissed this as "*low*" risk and not one that justified restrictive measures. Ofcom considered that for there to be effective competition four credible rivals were needed but it concluded that it was "*unlikely that any of the four MNOs would cease to be credible in the next few years even if they did not win any spectrum in this award*". In the longer term there should be other opportunities (apart from the Auction) for them to win spectrum to remain credible. The risk of there ceasing to be four credible MNOs as a result of this Auction was "*low*".

90. In paragraphs [6.110] – [6.113] Ofcom stated:

> "6.110 We conclude that it is unlikely that either O2 or H3G would cease to be credible MNOs due to insufficient spectrum in the **first transitional period** even if they did not win spectrum in this award. This is because O2 and H3G have 13% and 14% respectively of immediately useable spectrum, they are generally competing well in the market (as can be seen in annex 1) and the first transitional period is only expected to last until 2019-20. Even if they became weaker competitors due to a very asymmetric spectrum distribution (Competition Concern 1) to the extent that they started to lose market share, in our view it is hard to see that they would cease to be credible in just two to three years given their current circumstances and market positions, i.e. we consider it unlikely that the current four-player market would in effect become a three- or two-player market due to spectrum in the first transitional period.
>
> 6.111 If O2 did not win any further spectrum, then in the second transitional period, when we expect the 3.4 GHz and 700 MHz spectrum to be useable but not the 3.6-3.8 GHz, its share of spectrum would be below 10%. O2 might therefore need more than its existing spectrum to remain credible in the **second transitional period and the longer term**. Even if O2 does need to win spectrum to remain credible, we consider the risk of it ceasing to be a credible competitor due to spectrum in the future is low (even without competition measures in the Auction). This is because it should be able to win a sufficient amount of spectrum even without any competition measures in the Auction:
>
> a) As one of the largest MNOs in the UK with a small spectrum share, it would have a high intrinsic valuation for any additional spectrum it needs to remain a credible competitor;
>
> b) There is a large amount of spectrum in the Auction (190 MHz). In addition, in the 700 MHz band there will be 2x30 MHz of paired spectrum and 20 MHz of unpaired spectrum, which we expect to be awarded during the first transitional period; and
>
> c) In light of these considerations, other bidders would incur high costs if they tried to compete for all of the spectrum available (or a sufficiently large amount to prevent O2 from winning spectrum it needs to remain credible).
>
> 6.112 H3G will have 14% of useable spectrum in the second transitional period even if it does not win more in the Auction, given that it holds 40 MHz of 3.4 GHz spectrum through its purchase of UK Broadband. In the longer term, we expect the

> 3.6-3.8 GHz spectrum to also be useable. At that stage, H3G will have at least 19% of useable spectrum, since it holds 84 MHz of 3.6-3.8 GHz spectrum (again through its purchase of UK Broadband). Given its longer term spectrum position, and that it has 14% of spectrum in the second transitional period, we consider that H3G is unlikely to need additional spectrum to enable it to be credible in the second transitional period and longer term.
>
> 6.113 H3G's purchase of UK Broadband, and the spectrum rights it has gained through this, is an important change compared to the situation we assessed in the November 2016 consultation. Because of this change, we consider the risk of there ceasing to be four credible MNOs to be lower than our assessment at the time of the consultation."

91. Notwithstanding that the risk of an MNO ceasing to be credible by failing in the auction was low, it was also acknowledged that if this did happen the adverse impact on consumers "*would be substantial*" (Decision paragraph [6.114]). The consequence however of the finding, that the risk was "*low*", was that Ofcom decided not to introduce specific measures to address it (Decision paragraphs [7.65] – [7.67]).

Competition Concern 1: The specific risks to competition from very asymmetrical holdings even if there are 4 MNOs

92. The first set of "*Competition Concerns*" were by reference to three different scenarios about very high spectrum asymmetry, namely immediately useable spectrum, overall spectrum, and 3.4GHz spectrum specifically (Decision paragraph [6.4]):

> "Competition Concern 1: Very asymmetric holdings of spectrum can weaken competition (even if there are four credible MNOs). In the current circumstances, this concern has three specific aspects:
>
> o Competition Concern 1(a) - Very asymmetric holdings of immediately useable spectrum;
>
> o Competition Concern 1(b) - Very asymmetric holdings of spectrum overall; and
>
> o Competition Concern 1(c) - Very asymmetric holdings of 3.4 GHz spectrum specifically."

93. **Very asymmetrical holdings of immediately useable spectrum**: The concern was the risk that this "*may weaken competition in the first transitional period, before the 3.4 GHz spectrum is useable*". This was a "*significant concern*" (Decision paragraph [6.5]). BT/EE had comfortably the largest share of spectrum and if it won all the 2.3 GHz spectrum available its share would be just below 46% and the asymmetry would increase (Decision paragraph [6.55]). The current degree of spectrum asymmetry had

not however resulted in significant competition problems; the two MNOs with the smallest spectrum shares (H3G and O2) had been successful in gaining subscribers in recent years, while prices had remained relatively low compared to international benchmarks, and there was a significant level of investment in new products and services. *But*, during the first transitional period, competition could suffer as mobile data use continued to grow and MNOs needed to add capacity to compete. MNOs with smaller useable spectrum shares might not be able to add capacity as cost effectively as the larger MNO with the highest share and this could weaken competition for some customers over the first transitional period (Decision paragraph [6.57]).

94. An important consideration was the ability of rival MNOs to offer services at acceptable average speeds (see paragraphs [68] – [69] above). BT/EE had over 40% of useable spectrum before the Auction and would still have over 37% following the Auction on any outcome permutation, where it considered that 37% was the threshold for possible competition risks. However, this did not *necessarily* indicate that consumers would be better served by MNOs with smaller shares of spectrum winning 2.3 GHz spectrum. Consumers would benefit depending on how MNOs with higher spectrum shares used the spectrum in a manner which was attractive to consumers. It also depended upon the relative importance of average speeds that consumers experienced and, as to this, the evidence did not suggest that average speed was at the core of competition, albeit that it played a part. H3G in particular had scope to change its commercial offers so as to increase the average speeds it provided which tended to reduce concerns about H3G's ability to add capacity.

95. On balance there remained a concern during the first transitional period. In Ofcom's view BT/EE would not use the 2.3 GHz spectrum in a way that was *more* attractive to consumers than if the spectrum was obtained by rival MNOs with smaller spectrum shares. The risks arose because of Ofcom's concern that if BT/EE had very asymmetric spectrum holdings smaller MNOs would encounter difficulties in adding sufficient capacity to provide competitive average speeds.

96. Ofcom questioned whether BT/EE would attach a higher "*intrinsic value*" to the spectrum than rivals, which would justify it bidding a higher price, and therefore winning. Ofcom did not however think this likely "*because it already has a large share of immediately useable spectrum*". But, even if BT/EE did have a higher intrinsic value this would not obviate competition concerns about it winning 2.3 GHz spectrum and denying that spectrum to competitors with much smaller shares of immediately useable spectrum (Decision paragraphs [6.62] – [6.63]).

97. Ofcom also analysed the risk of an MNO being incentivised to engage in strategic bidding for the 2.3 GHz spectrum in order to weaken competitors by preventing rivals from winning it. In Annex 9 of the Decision Ofcom had discussed reports and models provided by O2 on the topic. On the evidence Ofcom concluded that the possibility of strategic investment was a significant concern. BT/EE had the incentive and ability to exclude rivals even where it did not place the highest intrinsic value on the capacity. Ofcom did not preclude the possibility of a coordinated strategic investment by two bidders. The risk was acute, and could not be discounted, due to the (relatively) small amount of available spectrum in the band and the relatively low shares of immediately useable spectrum of O2 and H3G. Vodafone could engage in such behaviour, but this risk was significantly lower than for BT/EE given the latter's higher market share and

higher diversion ratios from H3G and O2. (cf Decision Annex 10 paragraphs [A10.79ff]).

98. In conclusion:

a) There was a trade-off between weakening of competition and benefits to consumers from BT/EE's use of the spectrum. The analysis of where the balance lay was not straightforward.

b) There was a significant risk of weaker competition and consumer harm if there was a very asymmetric distribution of immediately useable spectrum in the first transitional period.

c) BT/EE already held 39% of the immediately useable spectrum that would be available during the first transitional period after the award (including 1400 MHz and 2.3 GHz spectrum). This was significantly higher than Ofcom's judgment that a generalised risk arose with a single MNO holding a share above 37%.

d) If BT/EE won 2.3 GHz spectrum, the disparity in holdings would increase. In extremis, if BT/EE won all 40 MHz of the 2.3 GHz spectrum, it would have 46% of such immediately useable spectrum.

e) Increased asymmetry could result in MNOs with small spectrum shares competing less strongly especially for specific customer segments, eg consumers demanding higher data speeds who normally impose greater demands on network capacity. This could lead to increased prices for those customers to moderate the increase in data traffic of such operators.

f) These concerns were increased by reason of the difficulties that smaller MNOs might in fact confront in obtaining extra capacity to compensate.

g) Strategic investment for 2.3 GHz spectrum to weaken competition was a realistic possibility and a reason for a more asymmetric distribution of capacity. BT/EE already possessed a large share of immediately useable spectrum. It was unlikely to have a higher intrinsic value for more such spectrum than operators currently having very low shares.

h) The risks identified were to be tempered by the fact that other useable spectrum would become available in the second transitional period and in the longer term which smaller MNOs would be able to acquire, including the 3.4 GHz spectrum in this Auction. Any adverse effect upon competition would therefore be likely to be temporary. Moreover, any such adverse effect would be most relevant to some customer segments rather than all customers.

i) These were all points relevant to the weight to be attached to the competition concern and were relevant to the assessment of the

proportionality of competition measures (as set out in the Decision section 7).

99. **Very asymmetrical holdings of spectrum overall**: Ofcom next considered whether competition concerns could arise after the 3.4 GHz spectrum became useable. This was expected to become useable in the period 2019-20. The 700 MHz spectrum was expected to become available and useable by Q2 2020, at a broadly similar time to the 3.4 GHz and if the 700 MHz was useable later than 3.4 GHz, the difference was in any event likely to be "*short"* (Decision paragraph [6.75]). Hence it was right to take into account that the 700MHz spectrum would become available during the second transitional period (ibid paragraph [6.76]). There was now less confidence that other bands, such as the 3.6-3.8 GHz band, would be useable at a similar time as the 3.4 GHz band. On this basis Ofcom assessed the impact for competition assuming that no other spectrum (including at 3.6-3.8 GHz) was available in the second transitional period.

100. Ofcom analysed this scenario upon the assumption that BT/EE won all the available spectrum. During the second transitional period, the most asymmetric outcome would be if BT/EE were to win all 190 MHz of spectrum in which case its share (when the 700 MHz was included) would be around 49%, well above the 37% point at which the risk of competition harm triggered concerns. If BT/EE won all 150 MHz of the 3.4 GHz spectrum in the Auction (and none of the 2.3 GHz spectrum), its share of overall spectrum when 3.4 GHz was useable would be 44% in the second transitional period, still significantly above the 37% threshold.

101. In relation to strategic bidding the allocation of spectrum based on intrinsic value bidding could weaken competition. MNOs who especially valued 3.4 GHz for 5G could outbid those with small spectrum shares who might use 3.4 GHz to expand their 4G capacity. There could be a trade-off in the second transitional period for consumer benefits between earlier or better 5G services and weaker competition. An MNO winning spectrum above 37% might cause a concern especially where this was unnecessary to realise potential 5G benefits (Decision paragraph [6.82]) ie such an MNO could launch a 5G service early with spectrum at or below 37%. Indeed, in Ofcom's view BT/EE could launch a 5G service with 80 MHz of 3.4 GHz spectrum, which was below 37%.

102. Ofcom considered (cf Decision Annexes 9 and 10) the risk of some MNOs being incentivised to engage in strategic investment in relation to both the 2.3 GHz and 3.4 GHz spectrum when these bands were considered together. The risk was relatively low that a single bidder would engage in *unilateral* strategic investment to weaken competition, given the large amount of spectrum in the award. But there was some risk of MNOs engaging in *coordinated* strategic investment but it was too uncertain to be relevant.

103. In conclusion:

a) If the 3.6-3.8 GHz spectrum became useable at a similar time to the 3.4 GHz spectrum, then if BT/EE won all 190 MHz of the available 2.3 GHz and 3.4 GHz it would have 40% of spectrum useable in the longer term which was above the 37% risk threshold.

b) If BT/EE won all 150 MHz of 3.4 GHz spectrum in the Auction (but no 2.3 GHz spectrum), it would have 36% of useable spectrum, when the 3.6-3.8 GHz spectrum was included as being useable.

c) If the 3.6-3.8 GHz spectrum was not useable at a similar time to the 3.4 GHz spectrum, then there would be a second transitional period during which BT/EE could win over 37% of spectrum because Ofcom would not, then, include the 3.6-3.8 GHz spectrum in the denominator.

d) If BT/EE won all 190 MHz, its share of useable spectrum would be circa 49%;

e) If BT/EE won all 150 MHz of 3.4 GHz spectrum, its share would be 44%.

f) This distribution of spectrum would reach a level of asymmetry which would give rise to competition risks and concerns.

g) It followed that Ofcom had concerns about the distribution of useable spectrum after the first transitional period.

104. **Very asymmetric holdings of 3.4 GHz spectrum specifically:** The third issue considered related to 3.4 GHz spectrum specifically. An MNO wishing to deploy 40 MHz or less of 3.4 GHz would be unlikely to be able to launch a 5G service meeting the technical requirements of the IMT 2020 vision (5G standard) since at least 80 MHz is needed to meet this standard. There is only 190 MHz of 3.4 GHz spectrum available: 150 MHz in the Auction and 40 MHz held by H3G. A maximum of two MNOs would have access to 80 MHz in the band. If there were strong demand from consumers for 5G rather than 4G services during the second transitional period it would not necessarily be beneficial for consumers to have 4 MNOs with 3.4 GHz spectrum since then no MNO would possess enough 3.4 GHz capacity for a viable 5G service. However, if large amounts of 3.4 GHz spectrum were required during the second transitional period for 5G services there could be a potential competition concern if, for example, a single MNO won 120 MHz since no other operator could hold 80 MHz for 5G. Only 30 MHz would be left to be won *via* the auction and even if this was acquired by H3G it would still have only 70 MHz, which would be insufficient for a 5G service. This scenario could be less desirable for consumers and for competition than an alternative in which one operator obtained 80 MHz and another operator obtained 70 MHz (or at least 80 MHz if it were H3G).

105. Notwithstanding, Ofcom also identified factors which mitigated the competition risks. These were as follows. First, while 5G services offered new, faster, more responsive and reliable mobile services relative to 4G, responses to the November 2016 Consultation suggested that this might emerge through a steadier evolution from existing services and not an immediate step change. MNOs could use 4G to compete for a period of time against rivals offering 5G and during the second transitional period (2019-20 to 2022) an MNO with a smaller amount of 3.4 GHz spectrum could offer sufficiently attractive services (below the 5G standard) to compete strongly with an operator with 80 MHz providing a 5G service. H3G, the smallest MNO, already held 40 MHz of 3.4 GHz spectrum and was unlikely to win all of the 150 MHz of 3.4 GHz spectrum in the Auction and there were therefore likely to be at least two

operators with 3.4 GHz spectrum (although one might only have 40 MHz). Assuming it was possible to compete strongly with less than 80 MHz in the early 5G years this would become more difficult over time.

106. Second, the 3.6-3.8 GHz spectrum would be useable for mobile services, probably including 5G services, within a similar timeframe as the 3.4 GHz spectrum. Ofcom was less confident about this relative to November 2016 and it might not be useable until 2022.

107. Third, existing spectrum bands were likely to become suitable for 5G in due course. This process was likely to accelerate if it became clear that consumers place high incremental value on 5G services.

108. Fourth, if the 3.4 GHz spectrum was uniquely important for the early launch of 5G services and only one or two operators were to win sufficient spectrum to launch such services, then consumers of other operators would not be able to experience 5G services and those other operators might struggle to compete strongly for customers that particularly valued 5G services. However, the operator or operators that could launch 5G services could have a strong incentive to deploy 5G services in order to gain a lead on their rivals. This '*first mover advantage'* that one or two operators might enjoy could lead to a rapid deployment of 5G services, generating consumer benefits which might partly compensate for a more widespread, but potentially slower, deployment of 5G. Indeed, if any such advantage were short lived (for example, because other bands became suitable for 5G relatively quickly), the result could even involve overall benefits to consumers through other operators which were later to deploy 5G being spurred to roll out and innovate.

109. There were two other points Ofcom considered. First (again) it was possible that the allocation of spectrum based on intrinsic value bidding could lead to a weakening of competition. For example, the 150 MHz of spectrum could be divided between two bidders (100 MHz / 50 MHz) because one bidder attached a higher intrinsic value for 100 MHz of 3.4 GHz spectrum to be in a position to launch highest speed 5G services. But competition could be weaker with this distribution relative to the counterfactual of the spectrum being split more evenly eg 70 MHz / 80 MHz. Second, Ofcom considered (Decision Annex 10) the risk of bidders being incentivised to bid strategically for 3.4 GHz spectrum specifically to block competitors access to 5G bandwidth. There was some risk of an incentive arising, but it was "*uncertain*". H3G already held 40 MHz of 3.4 GHz spectrum which could reduce the potential benefit from strategic investment by it (assuming however that 40 MHz was sufficient to enable H3G to compete strongly with a rival offering 5G services with 80 MHz during the second transitional period). The incentive to take such a strategic investment decision was also mitigated by the uncertainty as to when other bands would be useable for 5G and whether consumers would in any event be prepared to pay a premium for 5G services during the second transitional period.

110. In conclusion there was only enough 3.4 GHz spectrum for at most two operators to have at least 80 MHz (taking account of the 40 MHz that H3G already holds). Competition might be harmed if only one operator was able to launch 5G services early in 3.4 GHz spectrum, rather than two. However, these concerns were significantly mitigated and, overall, Ofcom was "*less concerned about asymmetry in*

3.4 GHz spectrum band specifically compared to the previous two competition concerns" (Decision paragraph [6.103]).

(e) The need to impose restrictions to address the identified Competition Concerns*: *The 37% threshold

111. Ofcom's conclusion as to Competition Concerns was summarised in the following terms:

> "6.115 We consider the risk of there ceasing to be four credible MNOs as a result of the Auction (Competition Concern 2) is low. However, we have concerns about very asymmetric spectrum holdings between these four MNOs (Competition Concern 1).
>
> 6.116 We are most concerned about two aspects of Competition Concern 1:
>
> a) First, there is a significant risk that increased asymmetry of immediately useable spectrum would weaken competition in the first transitional period (Competition Concern 1(a)), before the 3.4 GHz spectrum is useable.
>
> b) Second, we are concerned about a very asymmetric distribution of spectrum in the second transitional period (Competition Concern 1(b)), after the 3.4 GHz spectrum is useable. We are concerned about this because we now have less confidence than we did in the November 2016 consultation that the 3.6-3.8 GHz spectrum will be useable at a similar time to the 3.4 GHz spectrum.
>
> 6.117 With both of these concerns, if any increase in asymmetry were to result from strategic investment, we consider that there is a real risk of harm to consumers.
>
> 6.118 We are less concerned about the risk of a very asymmetric distribution of 3.4 GHz spectrum specifically (Competition Concern 1(c)) weakening competition."

112. Ofcom then had to translate those concerns into concrete restrictions which would form part of the Auction Regulations. They approached this task from the perspective of proportionality which involved three stages (see Decision Section 7 *passim*): First, identifying measures considered capable of effectively addressing the competition concerns, and explaining why; second, considering whether the measures were the least onerous means of addressing concerns, and third considering whether imposing such measures would be likely to produce adverse effects which were disproportionate to the aims being pursued. Ofcom performed this assessment first for the immediately useable 2.3 GHz band, and thereafter for the spectrum useable beyond the first transitional period, including the 3.4 GHz band. Ofcom then considered alternative proposals suggested by the parties and others.

113. In forming judgments Ofcom has to attribute different weights of seriousness to the identified Competition Concerns. Paragraphs [7.1] – [7.8] of the Decision state:

> **"Relative weights of competition concerns and uncertainties**
>
> 7.1 In assessing potential measures, we take into account - and balance - the relative weight we place on the different competition concerns we have identified and which the measure(s) are intended to address.
>
> 7.2 The relative weights of our competition concerns reflect a combination of the seriousness of the concern in adversely affecting competition and consumers, and the likelihood of the concern arising.
>
> 7.3 As noted in the previous section, our competition concerns for the Auction outcome relate to the likelihood of very asymmetric mobile spectrum shares, which have the effect of weakening competition (even with four credible MNOs); and the likelihood of there ceasing to be four credible MNOs.
>
> 7.4 We focus on two aspects of our concern about very asymmetric spectrum holdings weakening competition:
>
> a) First, we are concerned about weaker competition in the first transitional period due to a very asymmetric distribution of immediately useable spectrum (**Competition Concern 1(a)**).
>
> b) Second, we are concerned about the weaker competition arising from very asymmetric distributions of spectrum overall (including both 2.3 GHz and 3.4 GHz spectrum) (**Competition Concern 1(b)**).
>
> 7.5 We place more weight on these concerns than concerns about 'credibility' because of the much greater likelihood of them arising, even though their impact may not be as great.
>
> 7.6 Nevertheless, we also take account of the other competition concerns on which we place less weight for this award: the risk arising from asymmetric distributions of 3.4 GHz specifically (**Competition Concern 1(c)**); and the risk that there cease to be four credible MNOs in the future - which could have a serious adverse impact but, as noted, is in our view unlikely to arise (**Competition Concern 2**).
>
> 7.7 In addition, we take into account the inherent uncertainties that arise in the context of a forward-looking assessment of this nature. There are uncertainties both over the likelihood of competition concerns arising without competition measures and

> their impact, and over whether competition measures might unintentionally lead to a worse outcome for consumers.
>
> 7.8 These uncertainties mean that assessing the appropriateness of possible measures to address competition concerns involves a measure of assessment and judgement. We have sought to carry out our assessment and exercise our judgement taking account of all relevant facts and the submissions we have received from stakeholders."

114. The upshot of the analysis was the decision to impose the two caps. The two MNOs likely to be affected were BT/EE and, Vodafone. As to this Ofcom concluded:

> "7.10 We considered the positions of BT/EE and Vodafone and concluded that:
>
> a) We have a significant concern regarding the risk of BT/EE having the incentive and ability to invest strategically in the 2.3 GHz frequencies (paragraph 6.65) and that if it won the 40 MHz available in that band, whether through strategic investment or intrinsic value bidding, its share of immediately useable spectrum would be as high as 46% (paragraph 6.69).
>
> b) By contrast, the risk of Vodafone having the incentive and ability to engage in strategic behaviour is significantly lower (paragraph 6.66) and if it won the 40 MHz available, its share of immediately useable spectrum would only rise to 33%, which is below the 37% share we judge could generally weaken competition."

115. Ofcom's reasoning for choosing the figure of 37% (taken from Sections 6 and 7 of the Decision) can be summarised as follows.

116. First, there was no need to impose symmetry since competition could operate effectively with significant asymmetry. In a market where there were four credible MNOs holding all the spectrum, symmetric holdings would imply each having 25% of spectrum. H3G had argued that to maintain a four-player market structure, each MNO's spectrum share needed to be between a 20% floor and a 30% ceiling. Most four-player mobile markets in Europe had more symmetric spectrum holdings than in the UK. However, market shares varied considerably, and often were not strongly related to spectrum shares. Ofcom did not therefore accept that some degree of significant asymmetry was problematic and H3G's submission was not accepted.

117. Second, Ofcom's view was that a figure of "around 40%" was a suitable threshold (Decision paragraphs [6.49] and [6.53]). Ofcom has used a 37% threshold figure in the mobile spectrum auction held in 2013 and it was felt that it was appropriate to continue to use this figure. Adoption of the same figure was consistent with legal certainty (Decision paragraph [6.48] and footnote [54]). At paragraph [6.53] Ofcom said that "*in the interests of increasing regulatory certainty*" it would therefore adopt the 37% figure it had adopted in the 2013 auction as "*generally an appropriate limit"*.

118. Third, BT/EE already had in excess of 40% of available capacity and the market was working well. But since all MNOs had a need to obtain more capacity there was a "*risk that competition may be weakened if any single operator has more than around 40% of spectrum in the future*" (ibid paragraph [6.49]). The selection of a cap at significantly below a holding (of BT/EE) which was presently unproblematic suggested that the selected 37% figure was a conservative and protective threshold and a holding at above the figure would not necessarily present an imminent risk to competition.

119. Fourth, Ofcom considered that the minimum figure for a rival to be credible and to promote competition was 10-15%. Below this figure an MNO "*may not be as strong a competitor as it otherwise could be with more spectrum*" (ibid paragraph [6.51]). A cap set at 37% would allow 4 credible rivals to remain in the market.

120. Fifth, bearing in mind all of the evidence Ofcom set out its judgment call: "*Having considered responses, our judgment remains that if one operator has more than around 40% of relevant spectrum, this may raise competition concerns*" (ibid paragraph [6.52]). Ofcom's analysis was framed in terms of possibility ("may") not actuality. Ofcom did not say that a holding above 37% necessarily created an imminent risk to competition.

121. Sixth, the 37% cap did not curtail BT/EE launching 5G services on an early basis: "*... we consider that an operator would have the capability for an early launch of 5G with 80 MHz of 3.4 GHz spectrum, BT/EE could realise such benefits with its share of spectrum in the second transitional period rising close to, but not exceeding, 37%".* (Decision paragraph [6.82]).

122. Seventh, since a holding of above 37% was not necessary for an early 5G launch, then a restriction pegging BT/EE to 37% avoided the risk that it would bid for more of the 3.4 GHz spectrum upon the basis that it was nonetheless valuable for its 5G service (ie valuing it highly on an intrinsic, non-strategic, basis) and thereby excluding a smaller MNO obtaining the spectrum who valued that capacity for the 4G service (Decision paragraphs [6.80] – [6.82]).

(f) The denominator spectrum

123. The figure of 37% must, of course, be a percentage of a denominator group. Ofcom assessed what the total amount of spectrum presently available was, together with the spectrum that was going to become available in the relatively near future. There were four different bandwidths to consider: (i) 2.3 GHz; (ii) 3.8 GHz; (iii) 3.6-3.8GHz; and (iv) 700 MHz. The conclusion in relation to each of these was as follows.

124. First, in relation to 2.3 GHz this was immediately useable.

125. Second, in relation to 3.4 GHz when the November 2016 consultation was concluded it was considered that this would not be useable for 2-3 years after the auction. However, Ofcom had received evidence from industry participants that compatible devices could come into the market as early as 2018 and manufacturers had told Ofcom that the device ecosystem might be developed more quickly than initially anticipated. Ofcom therefore concluded that it would be useble within 2019-2020.

126. Third, in relation to 3.6 – 3.8 GHz Ofcom concluded that this would be available as from around 2020 and nationwide from 2022. Ofcom stated:

> "5.27 We will shortly be publishing a further document on the 3.6-3.8 GHz band confirming our intention to make the band available for mobile as soon as practicable, and setting out our proposed approach. Under our proposed approach, it is likely that it will be possible for operators to launch mobile services in the 3.6-3.8 GHz band in many areas from around 2020 - but not necessarily nationwide before 2022. For example, the band may not be fully useable in some highly populated areas where we consider there to be a significant likelihood of capacity constraints (including greater London) until 2022. The consequence is that there could be material constraints on mobile deployment in the 3.6-3.8 GHz band beyond the stage at which we expect the 3.4 GHz spectrum to become useable (i.e. from 2020).[33]
>
> 5.28 With regards to the device ecosystem, we are aware of only one mobile handset that will be able to use this band in the near future: the Essential PH-1 due to be released later this year. However, [REDACTED]. It is therefore possible that the ecosystem will develop at a similar pace as the 3.4 GHz band."

127. The 700MHz was likely to be useable from Q2 2020 as it would be clear of existing use by then and Ofcom intended to award it for mobile use in 2019.

E Ground I (H3G): Ofcom's own regulation is not suited to meeting its own articulated objective within a reasonable time frame: Ofcom has permitted BT/EE to maintain a spectrum holding materially in excess of 37% following the Auction and in circumstances where it has found that any holding exceeding 37% creates a risk to competition.

(a) H3G's submissions

128. I turn now to the first Ground of challenge. H3G argues that the Decision was not apt to achieve its own competition objective within a reasonable timeframe. Although Ofcom has concluded that BT/EE, for sound reasons, should be subject to a cap of 37% of spectrum it has nonetheless set in place a system whereby BT/EE could hold spectrum shares significantly in excess of that figure for up to four years. H3G accepts that Ofcom was within its rights to tolerate this position during the first transitional period (ie up to 2019) but not during the second transitional period.

129. The key to the analysis is the point in time when the 700 MHz spectrum becomes useable (and so could be included in the pool of useable spectrum). The end period for the analysis was, upon the basis of Ofcom's estimate in the Decision, Q2 2020 at the earliest (Decision paragraphs [A3.79] and [A3.88]). During this "*sensitive period*" of up to 3 years BT/EE is permitted to retain a spectrum holding exceeding 37%. This is because the 80 MHz of spectrum from the 700 MHz band is included in the *"relevant pool of spectrum"* from which the cap of 37% is calculated. Mr Turner

QC in his deft submissions on behalf of H3G explained that his challenge was a classic challenge to the logic of Ofcom's reasoning and included a series of matters that he said Ofcom had failed to address itself to either at all or adequately. He argued that the adoption of a 37% threshold figure by Ofcom was "*unimpeachable*". Ofcom had rightly concluded that at a spectrum holding above 37% there was a real risk that BT/EE would engage in the sorts of anticompetitive conduct identified in the Decision. But in a "*hiccup in logic*" Ofcom failed to see through the logic of its own position and as such conferred upon BT/EE "*runaway advantages in a time of extraordinary change".*

130. This was apparent from the "*Table 4"* included in H3G's skeleton (set out below), depicting BT/EE's share of useable mobile spectrum over time. This showed that BT/EE's share of spectrum would exceed the 37% threshold on all bases during the second transitional period.

131. The period during which BT/EE could enjoy this unmerited and unjustified market advantage was potentially significant. This arose because of Ofcom's acceptance in the Decision that there was a *risk* of there being an 18-month delay between 3.4 GHz and 700 MHz spectrum respectively becoming useable.

132. H3G submitted in its skeleton: "*Ofcom should at least have asked itself whether its 37% objective was capable of implementation in a proportionate and effective manner earlier than the date when 700 MHz spectrum eventually becomes useable (even assuming that, at that time, Ofcom will apply a 37% limit at all). Such analysis is strikingly absent*".

133. H3G also submitted: "*Ofcom articulated the crucial regulatory objective of avoiding very asymmetric shares of spectrum (namely where the share exceeds 37%). The measures chosen by Ofcom to implement this regulatory objective: (i) fail to satisfy, and indeed run counter to, this objective for a period of time likely to amount to three years or even longer, until the 700 MHz spectrum is useable; and (ii) are unsuitable for achieving this objective, given the separate rules governing the auction of the 700 MHz spectrum. The Decision is therefore flawed: the measures identified are not appropriate to fulfil the stated objective*."

Table 4 – BT/EE's share of useable mobile spectrum over time.

Useable mobile spectrum over time per Ofcom	**From now**	**1st transitional period**		**2nd transitional period**		**Longer term**
		From Nov 2017 (award) to 2018	**From 2018 to 2019/2020**	**From 2019/2020 to Q2 2020**	**From Q2 2020 to 2022**	**From 2022**
2.3 GHz		✓	✓	✓	✓	✓
1400 MHz			✓	✓	✓	✓
3.4 GHz				✓	✓	✓
700 MHz					✓	✓
3.6 GHz						✓
Total useable spectrum (MHz)	566.9	606.9	646.9	836.9	916.9	1,116.9
BT/EE's share of useable mobile spectrum over time						
Ofcom's cap of 340 MHz						
BT/EE wins 85 MHz of 3.4 GHz and 0 MHz of 700 MHz	**45.0%** (255 MHz)	**42.0%** (255 MHz)	**39.4%** (255 MHz)	**40.6%** (340 MHz)	**37.1%** (340 MHz)	
BT/EE wins 85 MHz of 3.4 GHz and 2x30 MHz of 700 MHz	**45.0%** (255 MHz)	**42.0%** (255 MHz)	**39.4%** (255 MHz)	**40.6%** (340 MHz)	**43.6%** (400 MHz)	
BT/EE wins 85 MHz of 3.4 GHz and 2x30 MHz plus 20 MHz (centre band) of 700 MHz	**45.0%** (255 MHz)	**42.0%** (255 MHz)	**39.4%** (255 MHz)	**40.6%** (340 MHz)	**45.8%** (420 MHz)	
Claimant's proposed cap of 310 MHz						
BT/EE wins 55 MHz of 3.4 GHz	**45.0%** (255 MHz)	**42.0%** (255 MHz)	**39.4%** (255 MHz)	**37.0%** (310 MHz)	***[Subject to regulation in separate 700 MHz auction]***	
BT/EE wins 80 MHz of 3.4 GHz and divests 25 MHz of 2.6 GHz	**45.0%** (255 MHz)	**42.0%** (255 MHz)	**35.6%** (230 MHz)	**37.0%** (310 MHz)		

(b) Analysis and discussion

134. I do not accept H3G's submission. In my judgment it suffers from 3 defects: (i) it is not a fair reading of the Decision; (ii) it is inconsistent with the facts as found by Ofcom; and (iii), it is inconsistent with the assumptions which underpin the adoption of the 37% threshold. I am also of the conclusion that the building into the system of a margin of tolerance in relation to observance with the cap was within Ofcom's margin of appreciation and, in any event, a decision justified on its intrinsic merits.

Not a fair reading of the Decision

135. The key to H3G's analysis is the possibility of a gap of up to 18 months during the second transitional period in which BT/EE could possess spectrum shares exceeding the 37% threshold. Mr Turner QC, for H3G, with considerable skill, applied a forensic scalpel to a variety of paragraphs in the Decision in order to support his argument that the gap was likely to be of lengthy duration.

136. To address these arguments, it is important to apply the right judicial optic to the Decision. As I have already observed the Decision represents Ofcom's high-level articulation of the reasons for its decisions on the architecture of the Auction and the imposition of restrictions. For this reason, it relegated the evidential underpinning to copious Annexes which themselves are frequently only summaries of the myriad arguments which lie deeply buried in the consultative process. The approach taken was a proper and in many respects sensible approach. But a necessary price that had to be paid is that many points which could have been promoted to the actual Decision have instead been relegated to Annexes or are left to be inferred and implied. The present issue is one such. Ofcom's conclusion as to the relative timings of the coming into useability of the 700 MHz and the 3.4 MHz spectrum are condensed and encapsulated in paragraph [6.75] of the Decision. Here Ofcom explained that the 700 MHz would come available within a "*similar time*" to the 3.4 GHz and if not at the same time then the difference was "*likely to be short*":

> "… we expect the 3.4 GHz band to become useable in the period 2019-20. We also expect the 700 MHz spectrum to be useable by Q2 2020, at a broadly similar time to the 3.4 GHz, or at least if the 700 MHz is useable later than 3.4 GHz, the difference is likely to be short."

137. This was a finding of fact that Ofcom made upon the basis of the evidence before it. Ofcom accepted and tolerated the degree of uncertainty inherent in its finding and, by necessary implication, that BT/EE might enjoy spectrum holdings in excess of 37% during any period of mismatch between the 700 MHz and the 3.4 GHz spectrum becoming available and useable. It is true that this conclusion is largely one of inference and implication. The point is not laid bare in the Decision. But, as Ms Rose QC, for Ofcom argued, it was as clear as it could be from paragraph [6.75]. The bare fact that BT/EE might, following the Auction, still possess spectrum holdings above 37% is also evident in other parts of the Decision, such as paragraph [6.58] where Ofcom, in the context of a discussion about average data speeds, stated:

> "6.58 The current asymmetry in spectrum holdings involves the MNO with the largest spectrum holdings, BT/EE, with more than 40% of immediately useable spectrum before the Auction, and - both before *and after the Auction - above the 37% threshold at which we judge that*

> *competition concerns about asymmetry in relation to capacity and average speeds may generally arise*."
>
> (Emphasis added)

138. I accept Mr Turner QC's analysis of some of the other paragraphs of the Decision as potentially ambiguous. I also accept that upon a felicitous reading of some portions of the Decision it is possible to argue that, in theory, the gap might be as long as 18 months. But read in an overall manner I am of the clear view that Ofcom was fully aware that the restrictions it was building into the Regulations would create a tolerance margin for BT/EE in relation to the 37% threshold. The "*gap*" therefore was no error or logical "*hiccup*" on Ofcom's part; it was understood and intentional.

Inconsistency with the facts as found by Ofcom

139. The second response to Mr Turner QC's argument is that tolerance in relation to adherence to the 37% threshold was the logical conclusion (and probably the only logical conclusion) to Ofcom's efforts to make findings of fact about the timings of the coming into effect of the 3.4 GHz and 700 MHz spectrum bands. The short point is that the point in time when those bands would become useable was not within Ofcom's power to determine with certainty. Ofcom could never, realistically, have arrived at a clear and confident conclusion. Uncertainty was therefore inevitable and accordingly the possibility that in certain scenarios BT/EE might for a period exceed the threshold could not be avoided. H3G's argument assumes a false degree of certainty and fixity about Ofcom's fact-finding process.

140. The evidence set out in Annex 3 to the Decision makes this clear. This Annex is entitled "*Mobile spectrum bands*". It presents an assessment of useability for mobile services of the different bands in the context of the 2.3 GHz and 3.4 GHz award process.

141. In relation to the 3.4 GHz spectrum Ofcom summarised the evidence. Much is confidential so I will only set it out in very broad terms. Ofcom received and examined evidence on (*inter alia*): the extent to which the band was being deployed internationally primarily for mobile; the substitutability between 3.4 GHz and 2.3MHz; the evidence of the MNOs about when they predicted that handsets capable of hosting 3.4 GHz would become available; expert evidence on the same issue; evidence from retailers about when they expected to be able to sell mobile devices enabled for 3.4 GHz; and evidence from leading device manufacturers about when they expected to be in a position to manufacture enabled devices such as handsets and tablets. Ofcom measured all of this evidence against its test for useability (see paragraph [15] above). At paragraph A3.63 Ofcom stated:

> "A3.63 We now consider that there is greater certainty that there will be a sufficiently developed ecosystem in the period 2019 to 2020. This band already meets the other two criteria for useability - i.e. there will be no material constraints on its use and it will be allocated as part of this Auction."

142. In relation to the 700 MHz spectrum Ofcom carried out a similar analysis collecting evidence on matters relating (*inter alia*) to timing from MNOs, experts, wholesalers,

retailers and device manufacturers. In addition Ofcom obtained evidence about the clearance of other current uses from the bandwidth which was a matter largely within Ofcom's own regulatory control. Ofcom had already issued a statement aiming to bring forward the clearance of the 700 MHz band made up of 2x30 MHz and the 20 MHz in the centre gap to Q2 2020. Ofcom believed that the chance of clearance being pushed back was relatively small. Ofcom disagreed with H3G's submission that clearances were likely to delay the date when the band would become available. In summary:

> "A3.88 … we still expect that the whole 700 MHz band will be cleared and allocated by Q2 2020, that there will not be any major constraints on its use and that there will be a device ecosystem as well as the necessary network equipment available by the time the band is cleared. Therefore, we continue to consider this as useable from Q2 2020"

143. In Footnote 230 Ofcom stated:

> "We consider the prospect of delays is limited, and any such delays would only be for a few months. Even if there were material delays in the clearance process, it likely that there would be scope to make the band available on a regional basis across large parts of the UK from Q2 2020, ahead of full clearance. We would continue to work towards an award well in advance of the date at which the first areas became available for mobile."

144. H3G does not challenge or put in issue any of these factual conclusions. Ofcom's overarching conclusion in Paragraph [6.75] of the Decision (see paragraph [136] above) that the 3.4 GHz and 700MHz spectrum would become useble at about the same time is a fair and proper conclusion on the facts. Ofcom was therefore entitled to proceed on this assumption. The obvious possibility that there could be slippage and deviation from the 37% does not therefore undermine the assumption and H3G's efforts to excavate the possibilities of this tolerated deviation do not weaken or alter the essential logic and correctness of the assumptions which underpin the choice of 37%.

145. I turn now to H3G's argument, based upon its Table 4, that the gap could be up to 18 months long. This was based upon assumptions that Ofcom challenged as incorrect and unjustified. Ofcom made the following main points:

a) H3G's assumption that the 3.4 GHz spectrum might become useable significantly before the 700 MHz spectrum was inconsistent with Ofcom's working assumption (set out in Decision paragraph [6.75]) which was that they would become useable at more or less the same time or that, if not, the gap would be short and immaterial to the reasoning behind the Decision to impose the 37% threshold (ie a margin of tolerance was acceptable).

b) In fact, in principle either the 3.4 GMz or the 700 MHz spectrum could become useable first. If the 700 MHz came in first then the scope for

BT/EE to possess spectrum exceeding the cap was substantially diminished or negated.

c) The Table also made the unwarranted assumption that BT/EE would be allowed (by Ofcom) to acquire any of the 700 MHz spectrum when it came up for auction. As to this Ofcom had made clear in the Decision that it would review the position at the time of the auction for the 700 MHz. In relation to the second transitional period however H3G had built into the Table the premise that BT/EE would be allowed to acquire 60 MHz of 700 MHz spectrum taking its holding up to 46% (despite already holding 40.6%). Ofcom observed: "*It would be entirely inconsistent with Ofcom's 37% benchmark for it to permit that*". The Table also included the additional (alternative) premise that BT/EE acquired 80MHZ of the 700 MHZ spectrum which, again, Ofcom argued was not tenable or "*realistic*".

146. I see the force in Ofcom's critique. H3G's analysis is based on assumptions that may very well be unjustified. However, it would not alter my conclusion even if H3G were correct. This is because the possibility of BT/EE enjoying a spectrum share exceeding the 37% cap for a significant period is one which was accepted as a matter of regulatory policy. It is built into the reasoning so that *even if* the tolerated deviation extended for up to 18 months as alleged this would remain within the logic of the Decision.

(d) Inconsistency with the assumptions which underpin the adoption of the 37% threshold.

147. The third reason why I do not accept H3G's analysis is because it is inconsistent with the reasoning which led in the first place to the adoption of the 37% figure. I have summarised the reasoning in the Decision at paragraphs [111] – [122] above, and I do not repeat those points here. H3G assumes that there is an overriding policy imperative to hold BT/EE rigidly to the 37% threshold and that any departure therefrom is inconsistent with the policy reflected in the Decision. H3G necessarily argues that the threat to the market from *any* holding beyond 37% is therefore so serious that any trespass however minimal in the second transitional period is intolerable. But this is simply not a sensible reading of the reasoning in the Decision. Ofcom does not assume that the 37% figure has to be met immediately. It was selected as a safe and conservative figure and one where there was a justifiable margin of tolerance as to the date for final observance of the 37% cap.

148. Ofcom's basic premise was that spectrum holding of "*around 40%*" risked being problematic (see paragraph [117] above). On this basis there is headroom between 37% and 40% where on the reasoning in the Decision the risk remains low.

149. The figure of 37% was also chosen to facilitate legal and regulatory certainty, it having been the figure adopted in the 2013 auction (see paragraph [117] above). It was not a figure chosen because of a fear that any holding above that figure created an imminent and serious risk to the forces of competition.

150. Ofcom also treated as important the fact that the market was presently competitive by ordinary measures of consumer welfare. On this basis BT/EE has a present spectrum

holding of 42/45% - (see paragraph [47] above) which is significantly above 37% and which reinforces the fact that 37% is prophylactic and conservative. There is leeway of 5-8% between 37% and a spectrum holding which has to date proven consistent with genuine competition. And even if there is no assumption that the market will remain competitive into the future this still highlights the point that 37% was not intended to be a rigid or inflexible trigger point.

(c) Margin of appreciation

151. Case law emphasises that the extent to which a decision maker is entitled to rely upon the margin of appreciation is highly fact and context specific: See *R (Lumsdon et ors) v Legal Services Board* [2015] UKSC 41 at paragraphs [44] – [56]. The present case must, in my view, sit towards that part of the scale where a broad margin is granted to the decision maker. This is because of the forward-looking, predictive, nature of the exercise coupled with the large number of uncertainties and imponderables which necessarily have to be grappled with as part of the analysis. I am also struck in this case by the fact that the parties have chosen not to challenge any of Ofcom's core findings of fact. In short the adoption of a 37% cap which had built into its *modus operandi* a significant tolerance for deviation was a rational, sensible and pragmatic course which was justified by the evidence and the guiding policy and which was well within the decision-maker's margin of appreciation.

152. My conclusion is based upon a close analysis of the reasoning in the Decision set against the supporting evidence, which I have considered in detail. The conclusion takes into account: (i) the extent to which facts as found by Ofcom have been challenged; (ii) the extent to which Ofcom has made assumptions and whether these are challenged or not and my view of the reasonableness of the assumptions; (iii) the extent to which Ofcom has drawn inferences from findings of fact or assumptions and my view of whether the inferences are reasonable. I have also taken account of the fact that this is not a hearing *de novo.* I have taken into account only the Grounds raised, and the evidence relied upon by the parties during the litigation but I have placed the evidence relied upon in the context of the totality of the relevant evidence. I have also taken into account that Ofcom is a specialised expert body with long experience of running spectrum auctions and with a deep familiarity of the economic complexities surrounding the task of maximising the revenue therefrom whilst simultaneously crafting the architecture of the Auction in such a way as to achieve overarching public interest goals. I have also taken into account that the reasoning in the Decision reflects evolving thinking over a period of years of intense preparatory work.

153. In the Decision Ofcom – echoing my conclusions - stated as follows:

> "7.7 In addition, we take into account the inherent uncertainties that arise in the context of a forward-looking assessment of this nature. There are uncertainties both over the likelihood of competition concerns arising without competition measures and their impact, and over whether competition measures might unintentionally lead to a worse outcome for consumers.
>
> 7.8 These uncertainties mean that assessing the appropriateness of possible measures to address competition concerns involves

> a measure of assessment and judgement. We have sought to carry out our assessment and exercise our judgement taking account of all relevant facts and the submissions we have received from stakeholders."

154. Finally, I take account of the fact that there has to be "*a"* figure. At the culmination of its lengthy economic analysis, with its attendant uncertainties, Ofcom had to pick a figure to use as the threshold for a competition concern ie when "*competition may be harmed*". A specific threshold figure had to be identified for the practical purpose of devising a cap to be included in the auction rules. Ofcom could not have devised a cap, meeting principles of legal certainty, governed by such rubric as: "*You can only bid for the amount which does not give us a competition headache*". The figure ultimately chosen, by its nature, would not be such that an MNO with spectrum above the threshold would *automatically* give rise to competition concerns. The most that can be said is that risk becomes higher as the cap is breached; hence the use of "*may* be harmed" in paragraph [6.46] of the Decision, and not "*will* be harmed".

(d) Merits

155. For very much the same reasons, to the extent that the merits must be taken into account, I find that the reasoning in the Decision for the 37% cap was good and solid reasoning on its own merits.

F. Ground II (H3G): Ofcom acted unlawfully and disproportionately in failing to address, and adopt, a different (and smaller) denominator for the spectrum cap which would have met Ofcom's objectives but been more apt to achieve and enforce the 37% cap.

(a) H3G's submission

156. H3G's Ground II is closely related to its first Ground. H3G argues that Ofcom adopted a spectrum pool figure of 916.9 MHz but that it should have removed 80 HMz of the 700 MHz spectrum and thereby identified 836.9 MHz as the spectrum pool figure (ie the denominator). The 37% cap would therefore have been 310 HMz and not 340 MHz. This can be seen in the third box down in H3G's Table 4 set out at paragraph [133] above. Ofcom should have applied the 37% figure to spectrum excluding 700 MHz. This was an obvious alternative approach which would have effectively and proportionately achieved its stated competition objective of keeping BT/EE to 37%. However, Ofcom did not consider this nor weigh it in the balance against the "*blunt and unsuitable measure that it did choose*". Applying 37% to spectrum excluding 700 MHz properly satisfied Ofcom's objective, yet it was neither considered nor adopted in the Decision despite having been raised in the consultation exercise. In its consultation response (30th January 2017 at paragraph [63]) O2 argued: "*However, O2 is concerned that the inclusion of 700 MHz in the calculation of the 37% cap is inappropriate because 700 MHz will not be available for some years after 3.4 GHz …"*.

157. There would be no significant disadvantage associated with adopting this course and it would be straightforward for BT/EE to arrange to be able to bid for a greater amount of 3.4 GHz spectrum in the auction (if BT/EE saw that as necessary for an

early launch of 5G services) by Ofcom permitting BT/EE to divest an equivalent amount of its (currently sparsely used) spectrum in return.

(b) Analysis and discussion

158. I propose to address the argument briefly. It is the flip side of H3G's principal argument, which I have rejected and which includes within it a challenge to Ofcom including 80 MHz of the 700 MHz spectrum in the denominator for the 37%. This is because, upon the basis of the reasoning set out in the decision, Ofcom had good reason to permit BT/EE to enjoy a tolerance surrounding the 37% threshold. Ofcom struck a balance between a variety of different considerations which included the proportionality of imposing a tighter cap on BT/EE. Allowing BT/EE this margin of tolerance was part of this balancing exercise. It follows that to have tightened the cap in the way proposed by H3G would have been unjustified on Ofcom's logic in the Decision which I have accepted. I can summarise the principal reasons as follows.

159. First, the inclusion of the 700 MHz was based upon the finding of fact, which I have concluded was properly made upon the basis of unchallenged evidence, that it would become available at about the same time as the 3.4 GHz spectrum. It follows from my finding that imposition of a 310 MHz cap in relation to the Auction would not result in BT/EE's share being reduced to 37% at a significantly earlier time than imposition of a 340 MHz cap and it was not therefore a "*superior solution*".

160. Second, in relation to H3G's suggestion that O2 raised the point during the consultation process but Ofcom failed to address it, this is not factually accurate. O2 did raise the alternative of a 310 MHz cap but it proposed the lower cap upon the basis of its view that: *"700 MHz will not be available for <u>some years</u> after 3.4 GHz".* That factual premise is not accepted by Ofcom and is not advanced in this litigation by O2. As Ofcom submitted in its skeleton: "*Neither O2 nor anyone else proposed that a 310 MHz cap should be imposed even in a situation where the 700 MHz and 3.4 GHz bands became useable at a broadly similar time. This is therefore a new contention which neither Three nor anyone else raised in consultation".* The question of alternatives was not in any event ignored in the consultation process. In the November 2016 Consultation at paragraphs [5.70ff] Ofcom recorded that it had previously considered a cap at 310 MHz. This had been derived by multiplying the same percentage used for the overall spectrum cap in the 2013 award (37%) by the total amount of spectrum already allocated plus the 2.3 and 3.4 GHz spectrum in the award. In the context of the 2.3 GHz and 3.4 GHz award, the case for an overall spectrum cap at this level was "*significantly weakened*" by the following:

> "- BT/EE would be prevented from acquiring a large block of 3.4 GHz spectrum (since it would be limited to acquisition of 55 MHz). The 3.4 GHz band may be used to launch 5G services, and blocking BT/EE from obtaining a large block could be detrimental to consumers if BT/EE needed 3.4 GHz spectrum to deploy 5G services early, and was better positioned than its competitors to do so.
>
> - Other mobile spectrum will be awarded that will be useable at a similar time to the 3.4 GHz spectrum."
>
> (ibid paragraph [5.74])

Ofcom took as its working assumption that the 700 MHZ would be useable at about the same time as the 3.4 GHz.

161. Third, imposition of a 310 MHz cap would be more restrictive than Ofcom considered necessary. As such it would risk being disproportionate. Ofcom observed in the November 2016 Consultation that it would have the effect that BT/EE could not acquire 80 MHz of 3.4 GHz spectrum (which it might need for a 5G launch) unless it divested some of its holdings, such as holdings in the 2.6 GHz band. The imposition of the tighter cap was thus a significantly more burdensome measure than Ofcom considered was necessary.

162. Fourth, the imposition of a cap with the consequential restrictions upon BT/EE could not be mitigated by H3G's proposed solution of relinquishment and replacement of licences. H3G argued that if Ofcom wished to allow BT/EE to acquire 80 MHz of 3.4 GHz spectrum (despite a 310 MHz cap) it could facilitate BT/EE's divestment of currently-held spectrum by drafting the Auction Regulations to permit this to occur. H3G argued that it was: "*...no answer to say that the policy could not be adopted because the current draft Auction Regulations do not envisage it*." The answer to this is that technically it is possible to envisage ways in which a process of relinquishment and replacement could be built into the Auction Regulations. But that is not the point. The issue turns upon the practicality of so doing and the risks presented to BT/EE. Ofcom produced witness statement evidence in relation to this, some during the oral hearing. This explained that it is always open to a licensee to relinquish spectrum to Ofcom and the usual process is for the licence to be handed back to Ofcom in whole or in part. Prior to the Digital Economy Act 2010 (DEA 2010) (amending section 12 and 14 WTA 2006) an operator relinquishing a licence received no compensation. Under the DEA 2010 however a mechanism existed for a licensee relinquishing a licence to receive compensation, subject however to the consent of the Secretary of State.

163. Mr Mark Caines, Policy Director in Ofcom, in his witness statement evidence summed up the position: "… *there would be significant complexities to delivering the auction which could cause significant further delay of at least several months, with adverse effects for consumers, despite best efforts on Ofcom's part to get the spectrum to market as quickly as possible. Ofcom would need to amend the auction design to accommodate the relinquished spectrum band in addition to the 2.3 and 3.4 GHz bands and I would expect this to make the design significantly more complex. For example, the existing auction design includes specific arrangements for bids to switch between the current two bands and these would need to be adjusted to provide for switching between three bands. Ofcom would need to revise its approach to implementation of the spectrum caps and possibly to the assignment stage as these currently only work with a two-band auction. Ofcom would also need to consider competition implications. The finalisation of these matters would depend on whether and when BT/EE informed Ofcom that it did wish to relinquish spectrum, and if so in which band."* As to compensation this would be subject to the consent of the Secretary of State. Absent such consent or agreement as to the principles of compensation BT/EE would be handing back spectrum for which it might have paid at auction at a "*considerable opportunity costs to itself*". A responsive witness statement was produced by Mr Lopez from H3G. He analysed the points raised by Mr Caines and suggested that the difficulties identified were not as great as portrayed.

164. The issue of the costs and benefits of relinquishment only arises if Ofcom is incorrect in its position that there was no need to remove the 700 MHz from the denominator pool. I have found that its decision on this was lawful. If, however, this was incorrect then in weighing up whether H3G's solution is viable the costs and benefits do become relevant. As to this, howsoever one calibrates and weighs the matter, it is in my judgment plainly correct that there will always be a substantial level of complexity, cost and uncertainty attaching to *any* process of relinquishment by BT/EE and Ofcom was justified in treating any solution which triggered such complexities as adverse to the smooth running of the Auction and to be avoided. Ofcom was therefore entitled to avoid H3G's solution on the basis it added significant complexity which was relevant to its ultimate finding that the postulated alternative was disproportionate. I accept Ofcom's argument that H3G's solution is not superior to that adopted or more apt.

(c) Conclusion

165. In conclusion I reject this Ground of challenge.

G Ground III (BT/EE): The imposition of the 37% spectrum cap was unlawful and disproportionate in that: (a) there was no good basis for the conclusion of Ofcom that there was a competition issue in the second transitional period; (b) Ofcom's conclusion that competition harm might ensue from a very high spectrum asymmetry was inadequately evidenced and inadequately reasoned; and (c), the imposition of the 37% cap was generally unjustified.

(a) BT/EE's submissions

166. I turn now to the first Ground of challenge advanced by BT/EE.

167. Mr Beard QC, for BT/EE, in his oral submissions drew together the threads of the argument. He accepted that Ofcom was in this case bound to apply a prospective analysis. He did not cavil with the conclusions of Ofcom as to the types of anticompetitive behaviour and conduct that "*in principle*" could arise as a consequence of very asymmetrical spectrum holdings. But he did contend that there was a serious mismatch between Ofcom's purely theoretical concerns and whether these were made out on the evidence to any sensible test of likelihood, in relation to BT/EE in the relevant timeframe (ie the second transitional period).

168. In BT/EE's skeleton argument an analysis was made of each of the "*in principle*" anticompetitive practices identified by Ofcom. These were: the obtaining of a position of unmatchable competitive advantages; anticompetitive pricing behaviour; the earlier development of new services; the impact on wholesale competition; hoarding; and, strategic bidding. In relation to each BT/EE argued that Ofcom's conclusions were unevidenced and no more than a statement of abstract theoretical possibility, which was legally insufficient as a justification for the imposition of such a serious set of restrictions as the caps. And insofar as Ofcom did refer to facts and evidence there was no explanation as to <u>how</u> those facts were relevant or connected to the alleged anticompetitive practice, in particular how they facilitated or permitted such behaviour to occur.

169. All of the other parties to the litigation disagree. They all agree that Ofcom was right to conclude that if BT/EE went unconstrained into the Auction it could acquire spectrum giving it market power and the incentive and ability to engage in anti-competitive conduct.

(b) Analysis and discussion: The evidence relied upon - introductory points

170. I do not accept BT/EE's argument. When read fairly the Decision sets out a clear evidential basis and explanation for the caps. Contrary to the submission of BT/EE, Ofcom conducted a detailed economic analysis of future market conditions which sufficed to explain why BT/EE would be able, should it so decide, to engage in anticompetitive practices. Ofcom focused upon those features of the future market which would make anticompetitive behaviour and conduct rational and commercially advantageous.

171. In the text below I have endeavoured to set out, but only in broad terms, the approach adopted by Ofcom and to refer this to the categories of evidence that Ofcom took into account in forming its conclusions. I do not seek to set out or even summarise in any detail the underlying evidence. It is voluminous.

172. There are three introductory, general, points to make. The first is that on almost every facet of competition relevant to the analysis the MNOs submitted detailed expert evidence, most of which was at odds with each other. The Annex to the Decision is 395 pages in length and is, itself, only a summary of the evidence Ofcom received. A review of the background material demonstrates that no analytical stone was left unturned by the MNOs and each pebble was subjected to intense and invariably conflicting expert scrutiny. Manifestly, the Decision was not taken in an evidential vacuum. The second general point is that the issues Ofcom was consulting about, and upon which the MNO's submitted evidence, were the self-same matters that Ofcom had been debating with the MNOs for some years. This is evident from consultation papers dating back to 2012 which are cross-referred to in the Decision. There was thus nothing remotely novel about the evidential issues being considered in the Decision. The third point is that no party in this litigation challenges Ofcom's conclusions about the "*in principle*" anti-competitive conduct.

(c) The essential logic behind Ofcom's Decision

173. With those general points in mind I now summarise the framework which governed Ofcom's conclusion that the future market was such that the "*in principle*" anticompetitive behaviour could occur.

174. *Exponential projected increases in demand*: The starting point was Ofcom's conclusion that demand was expected to increase by between 10 and 100 times within the timeframe of its analysis of competition concerns. I will not go into the evidence because the premise, of exponentially rapid growth in demand, was accepted by all parties. The extensive evidence which underlay this conclusion focused upon an examination of patterns of present and future expected growth in different categories of service.

175. *The consequential need to increase capacity*: It followed from this that if MNOs were to remain competitive in the future they had to be able to expand. Again, no party criticises this premise in this litigation. To expand, and not to fall behind, an MNO therefore must be able to increase capacity. The most obvious means of increasing capacity is through the acquisition of new spectrum. But capacity can also be increased by intensifying the use of *existing* bandwidth ("*densification*"), for instance by building out the MNOs network (more masts). Ofcom therefore devoted a great deal of effort in analysing the extent to which smaller MNOs, who might not win spectrum in the Auction, could nonetheless compensate by investing in their existing networks. Ofcom had been examining this issue over the course of many years and all MNOs responded with detailed expert and factual evidence during the consultations. In the November 2016 Consultation Ofcom provisionally concluded that operators with lower shares of licensed spectrum than rivals could deliver comparable levels of capacity by strategies other than by adding additional spectrum, such as *"… densifying their networks, moving to more efficient technologies and using licence exempt spectrum*." In the Decision, in the light of extra detailed evidence submitted by the MNOs, Ofcom modified its position and accepted that the extent to which MNOs could work around spectrum shortage was more limited than first believed. In reaching this conclusion Ofcom received and analysed a welter of evidence about such matters as the costs of using alternative, work-around, technologies and their timescales. It is summarised in Annex 6. An illustration given by one MNO concerned densely populated areas (for instance CBDs) where there could be many tall buildings. Planning and other physical constraints hindered the construction of new masts in such areas; accordingly, for these important areas densification of existing networks was of limited value as an alternative to new spectrum. Ofcom applied its analysis to each of the two smaller MNOs (O2 and H3G). Its conclusions were nuanced. For instance, in relation to O2 it found that the concerns expressed were exaggerated but it accepted, nonetheless, the thrust of the argument that finding work-around solutions was in fact not the solution that Ofcom first thought it was. Ofcom inferred from this work that if the Auction did lead to accentuated asymmetrical outcomes then there was a limit to the extent to which the gap could be narrowed by alternative means.

176. *The modus operandi of anticompetitive harm (spectrum relativity and surplus capacity)*: Next Ofcom addressed the competition implications of sustained accentuated asymmetry. The analysis focused upon the two mechanisms – *or modus operandi*- whereby competition might come to be distorted: (i) the implications of *relativity* (ie the degree of symmetry) in spectrum holdings as an indicator of the potential for competition harm; and (ii), the implications of an MNO holding blocks of surplus and unused spectrum. Ofcom's conclusion on this (set out below) was that both of these factors existed or could exist post-Auction and, accordingly, BT/EE would have the ability to engage in anticompetitve conduct or behaviour. I deal with each such mechanism below.

177. *Relativity*: In relation to relativity the issue, in simplistic terms, boils down to the implications of differences in (a) economies of scope and scale and the fact that smaller MNOs may confront higher marginal costs than a larger MNO; and (b), data speed. In the Decision, in section 6 dealing with competition concerns, Ofcom referred to its earlier analysis of this point in a Statement in July 2012 entitled "*Assessment of future mobile competition and award of 800MHz and 2.6 GHz*". In

Annex 3 to that earlier Statement Ofcom explained why *relative* spectrum holdings were a core competition concern:

> "A3.170 The assessment of what is required to be capable of exerting an effective constraint on its rivals is strongly influenced by a relative comparison of one national wholesaler compared to its rivals, as rivals needs to be able to compete with one another for there to be strong competition. Whilst national wholesalers do not need to be in fully symmetric positions, if one faces very high costs to expand its capacity compared to its rivals, then it may cease to be able to exert a competitive threat across a large proportion of the market. National wholesalers with very small spectrum shares will be limited in the proportion and type of consumers they can serve and/or the average data rates they can provide.
>
> A3.171 As a result, we consider it necessary for national wholesalers to have sufficient capacity relative to rivals to serve enough customers with sufficiently high data rates for them to be credible. However we do not consider it appropriate to base this assessment on spectrum per customer estimates, particularly based on existing customer bases. This is because it is not clear why current market shares or customer numbers would necessarily be optimal in the longer term, and so restricting the analysis to spectrum per customer on this basis does not seem the most appropriate benchmark for assessing whether a national wholesaler will be credible in the future.
>
> A3.172 We take into account the role that other factors may have in affecting credibility by recognising that to some extent the minimum amount of spectrum required will depend on the frequency of spectrum held, and the ability of national wholesalers to deliver other quality dimensions. As such, the 10-15% range was provided as an indicative range, where we broadly considered that there is some risk that a national wholesaler would not have enough capacity to be credible if it held less than this, and the smaller the share held below this the greater the risk. Conversely, we considered that the risk that a national wholesaler does not have the necessary minimum spectrum for capacity reduces as the share increases above 15%. Therefore, the range was used to provide an indication on a scale of risk to credibility rather than a threshold above which the risk to credibility immediately and automatically disappeared. Having considered the importance of all four quality dimensions (not just capacity), we then separately assessed the specific spectrum holdings of existing operators against these. This reflected individual bands and quantities held as well as network assets, and set out our interpretation of what this suggests for their credibility as national wholesalers

> (both with current spectrum holdings and under different Auction outcomes)."

178. The issue of data speed is also linked to relativity. Ofcom's analysis of the importance of data speed to competition was nuanced: For a summary of the evidence received and analysed see Decision Annex 2 which discusses how different speeds might impact upon competition. Speed is not fundamental to competition, but it remains important and it might become more so in the future. At present what mattered to consumers most was average speed, not maximum speed, and therefore the question was whether, with the capacity they possessed, MNOs could routinely match the minimum speed needed to keep consumers happy. Congestion was a factor in this (Decision paragraph [A2.39]) since speed tended to be lower in heavily loaded cells and since avoiding low speeds was more important than receiving high speeds, the speed delivered in heavily loaded cells was likely to be more important to competition than performance in lightly loaded cells where speeds were generally higher. Speed was largely affected by capacity and so the MNO with the largest capacity would have a *relative* advantage over rivals as the market evolved, especially in congested areas. In the Decision Ofcom summarised the position and explained how this was linked to relative capacity:

> "6.25 We consider the evidence in more detail in annex 2 and conclude that, although speed is one factor affecting retail competition, it is not the only factor. We also recognise that the value customers place on speeds may increase in the future, although the extent of this is uncertain.
>
> 6.26 Nevertheless, because speeds are *a* factor that drives competition, it is our view that competition concerns may arise due to differences in MNOs' ability to add capacity if there are very asymmetric spectrum shares. If some MNOs were only able to provide average speeds that were materially lower than those of rivals, we consider that competition could become weaker than it might otherwise be. We recognise that it may not strictly be 'average speed' that matters, but rather being able to provide sufficient speeds to consumers for the services they are demanding. This will vary depending on the applications they are using. We use the term 'average speed' as a useful short hand for this.
>
> 6.27 We consider that using additional spectrum is an important way of adding capacity, and have assessed that, if the distribution of spectrum between MNOs becomes very asymmetric, the market could develop in a way that reduces competition for some services or customers (even if there remain four credible MNOs). And because competition is influenced by a *relative* comparison of one MNO to its rivals, it is appropriate to consider the *share* of total mobile spectrum to

> which an MNO has access (rather than just the absolute amount of spectrum)."

179. *Surplus capacity*: The next mechanism for harm is surplus capacity. BT/EE argued that the *modus operandi* for the coming about of harm through anticompetitive conduct was not relativity but the possibility of surplus capacity (or "*headroom*"). I agree that headroom is an issue; but I do not accept that it operates to exclude concerns arising from relativity. In relation to surplus capacity the point is obvious. If one MNO holds or is able to buy very large blocks of spectrum which are surplus to present and foreseeable needs, then it can use that surplus creatively to undermine its rivals, in the manner identified by Ofcom in the Decision. Ofcom has calculated that to be able to mount an effective 5G offering an MNO needs 80 MHz of spectrum. The total amount available in the Auction is substantially in excess of that needed to provide 5G services in the future. If BT/EE were to win more than 80 MHz it would therefore possess capacity materially in excess of its future 5G needs. And that conclusion holds true even if BT/EE's argument advanced during the consultation process, that 100 MHz was needed for an effective 5G launch, had been accepted. There is also evidence before the Court indicating that BT/EE *already* holds a bank of unused capacity, or capacity that could easily be redeployed from its present use. The Decision (at paragraph [7.27]) records that BT/EE has surplus capacity.

> "…• BT/EE already has a large amount of immediately useable mobile spectrum - 255 MHz. This represents 39% of immediately useable spectrum after the award;
>
> • BT/EE's current holdings include not only a large amount of paired spectrum but also some unpaired spectrum (like 2.3 GHz);
>
> • BT/EE combines this high share of spectrum with a large network of sites (around 18,000); and
>
> • BT/EE is not currently deploying all of its existing spectrum widely. It has deployed 2x20 MHz of 2.6 GHz spectrum, with an additional 2x15 MHz deployed on a number of sites in Central London, and at Wembley. BT/EE has also told us that it has begun small cell deployment using some of the 45 MHz of spectrum in the 2.6 GHz band held by BT prior to the acquisition of EE. This 45 MHz is 7% of immediately useable spectrum after the award."

180. Ofcom accepted (Decision paragraph [A.11.74]) that the fact that an MNO was not currently using all its spectrum or that it had not deployed it at all of its sites did not necessarily imply spectrum hoarding or an inefficient spectrum allocation. It was up to individual MNOs to decide how they deployed the spectrum that they purchased at auction. At paragraph [A11.75] Ofcom observed, clearly contemplating BT/EE "… *If it is true that there are MNOs that have more spectrum than they need in the short to medium term then it is likely that their valuation for additional spectrum will be lower than for MNOs that have a more urgent need for additional spectrum, absent strategic investment (which we consider in detail in annexes 9 and 10)*." But the bottom line is

that if BT/EE were to hold surplus capacity this would facilitate it in pursuing anticompetitive behaviour, should it decide to do so.

181. *Market concentration*: The more concentrated the market (ie the smaller the number of companies in whose hands the market is concentrated) the more likely it is that there will be scope for one or more of the larger participants to engage in anticompetitive practices. One measure of market concentration is "HHI".[4] The Decision (paragraph [A1.48]) records that the HHI was "*relatively concentrated*". In other words it was characterised by a structure whereby anticompetitive conduct was possible or more likely. Between 2009 and 2016 the market had increased in concentration from an HHI of 1,749 to an HHI of 2,021, a negative change of -296: See Figure A1.9 in Annex 1 to the Decision. In paragraph A4.84 – A4.85 Ofcom performed a HHI analysis for other markets in the EU to identify where the UK market stood. Ofcom concluded, using subscriber shares as its benchmark, that the UK had "*concentration levels relatively similar to those of the rest of the sample…*". Ofcom also conducted an HHI analysis of spectrum concentration (rather than subscriber shares). It concluded: "*Using this measure, the highest levels of spectrum concentration are in Slovenia and the UK, with spectrum HHI indices of 3,431 and 3,027 respectively. Concentration levels of other countries are relatively similar between 2,528 and 2,769*." This provides some (albeit modest) additional support for the conclusion that the market structure was such that anticompetitive conduct was feasible.

182. *Present state of market health*: I should add, because it is important to ensure appropriate balance (and in the light of H3G's arguments which sought to portray the risk of anticompetitive harm perpetrated by BT/EE as imminent and high), that Ofcom did not find that the current risk posed by BT/EE was especially high or imminent. The conclusion was much more balanced. One illustration of this was Ofcom's findings about the state of competitiveness in the present market: See paragraphs [62]-[69] above. Ofcom considered that the market was working well even though BT/EE held a spectrum share significantly in excess of the 37% threshold and there was no evidence that BT/EE had engaged in conduct that was anticompetitive. Ofcom's conclusion, on market health, was not however a statement about the operation of the market in the future.

183. The conclusion to the above is that Ofcom performed a detailed evidence based analysis of all of the factors relevant to a conclusion that the market was such that an MNO in BT/EE's position would be able to engage in conduct and behaviour detrimental to competition and consumers. When that is combined with Ofcom's identification of anticompetitive practices which "*in principle*" could be engaged in, Ofcom had a perfectly sensible and rational basis for *ex ante* regulation.

---

[4] The HHI ("*Herfindahl-Hirschman Index*") is a measure of market concentration. It is calculated by taking the absolute value of the market share of each firm in the industry (e.g. 25 if the market share is 25%) and squaring this number. The sum of these values for all firms is the HHI and can theoretically range from close to zero (for a market with a large number of small firms all with small market share e.g. less than 1%), to 10,000 for a market with one operator with 100% market share. If all firms in a market with four competitors have the same market share, the HHI will be 2,500, i.e. 4 x (25% x 25).

(d) BT/EE's supplementary arguments

184. Mr Beard QC advanced a number of supplementary points.

185. *Incremental increases*. First, Mr Beard QC in his skeleton argued that Ofcom's analysis ignored the fact that the increments that were being focused upon were relatively small. BT/EE argued that Ofcom had failed to explain how a maximum increment to BT/EE's spectrum of 2% could create unmatchable advantages. BT/EE had 42% of useable spectrum and if it was unable to bid for the 2.3 GHz spectrum it could only ever increase its holding to 44%. The suggestion was that the impact was *de minimis*. There are two answers to this. First, Ofcom's logic is that the risk of harm to competition increases at any point above 37% so that any increment, even a modest one, still on balance implies an increase in risk above the floor level which is found to be the appropriate threshold for regulatory action. But second, the impact on relativity (ie asymmetry) is disproportionately affected by even small increases in spectrum holding. The gap between the largest holder of spectrum and its rivals increases disproportionally as the largest MNO obtains new spectrum and that effect is particularly pronounced at incremental increases of only a few percentage points at around 40%. This can be easily demonstrated by considering the position of a 4 MNO market. In the examples below the largest MNO is "X":

(i) If X has 40% of the spectrum then there is 60% to be shared between rivals which, on average, is 20% each (in a four MNO market). In this scenario X is twice as large as the average (amongst the other 3) and the difference between X and each rival is 20%.

(ii) If however X increases its share from 40% to 44% then there is 56% to be shared between the 3 rivals, which is 18% each. The difference between X and the average is now 26% (ie 44-18=26). Accordingly by increasing its spectrum holding by 4% it has increased the average differential by 6%.

(iii) If X increased its share from 40% to 49% (which is the maximum that BT/EE could acquire if the Auction was unconstrained) then the rivals would share 51% which is an average of 17%. The difference between X and the average is now 32% (ie 49-17=32). Accordingly by increasing its spectrum holding by 9% X has increased the average differential between itself and each rival by 12%.

186. *The timeframe of the analysis*: Mr Beard QC next argued that whatever analysis Ofcom did do it was not sufficiently grounded in the second transitional period which was the point in time when the competition concerns in relation to BT/EE arose. I do not accept this criticism. First, it is clear from the actual evidence Ofcom considered that its temporal lifespan extended into the future and covered the second transitional period. By its very nature it was apt to cover that period. Second, and in any event, Ofcom did in fact expressly specify that its conclusions applied to the second transitional period. Thus, for instance in Annex 6, which addressed network investment and capacity growth, an issue of substantial importance to this Ground of challenge, Ofcom specifically linked its analysis to the second transitional period.

187. *Competition is about more than capacity*: Mr Beard QC also argued that Ofcom's analysis focused exclusively upon capacity but ignored other facets of competition

relating to matters such as price, quality and coverage. He relied upon the expert evidence prepared by Mr Williamson, on behalf of BT/EE who identified various factors which were important to competition, beyond capacity. I disagree. The Decision does cover matters beyond capacity. I have referred above to speed, congestion and to network build-out. And the Decision explicitly links these to the ability to engage in anticompetitive price practices and behaviour which impacts upon quality of service. In my judgment the matters covered in the Decision properly reflect the real issues arising.

188. *Lack of nexus*: Mr Beard QC also drew attention to the fact that whilst there might be coverage of issues in the Annexes to the Decision there was no explanation of why or how the facts as found were relevant to the identified competition concerns. I accept that in some respects the reasoning in the Decision is cursory. But that is not in my judgment a fair criticism to make. The Decision is intended to articulate at a relatively high-level Ofcom's essential reasoning. I can see a positive public interest in this approach which isolates the key logic and makes it digestible. If it were to be burdened with detailed recitations of the evidence, it would lose much of its clarity. It is thus an effective drafting technique to separate the conclusions from the evidence. Insofar as there are occasions when clarity might (arguably) have been enhanced by additional cross-referencing this is a minor drafting matter. When the Decision and the Annexes are read together the evidential underpinning behind the reasoning is sufficiently plain, and that is most certainly true in relation to the MNOs all of whom understood full well the implications of everything stated in the Decision.

(e) Conclusion: The limits of the exercise

189. I reject BT/EE's argument that there is lack of reasoning in or behind the Decision in so far as it relates to competition concerns in the second transitional period.

190. I also reject the argument that Ofcom had to adduce further evidence which showed a causal link between the "*in principle*" anticompetitive conduct and the likelihood of BT/EE *actually* engaging in that conduct. Mr Beard QC argued, for instance, that if the concern was that BT/EE would engage in discriminatory pricing then it had to be shown *why* it was that this was likely. He said that the evidence (such as it was) did not go far enough.

191. Ofcom has focused upon two issues: first, the anticompetitive conduct that could arise "*in principle*"; and second the features of the market which make the "*in principle*" anticompetitive conduct feasible and profit-maximising. The logic is that if the evidence shows that the market would enable or permit the "*in principle*" anticompetitive conduct to occur, then it can properly be inferred that it is logical and rational for an MNO in the position of BT/EE to engage in that "*in principle*" conduct. In my judgment this is correct because (i) the anticompetitive conduct identified is not prohibited or unlawful conduct that could expose BT/EE to fines or regulatory sanctions; and (ii), it would or could be profit maximising for an MNO in the position of BT/EE to engage in such conduct. It is thus lawful and commercially sensible. In an *ex ante* predictive analysis, it would not, in my judgment, be reasonable to expect Ofcom to go further than it has and, for instance, be required to prove that BT/EE had a specific intent or will to engage in such practices. That would be incompatible with the *ex ante*, protective, nature of the jurisdiction being exercised. It would also be impracticable. Mr Beard QC accepted, for instance, that

Ofcom should not have to chase the MNOs for disclosure of marketing or strategy documents in order to collect evidence about the (subjective) likelihood of the MNO in question engaging in anticompetitive practices. Indeed, such evidence might not, at the point in time when Ofcom sought it, even exist; but the absence of such documents at one point in time would not necessarily mean that in (say) 3 months' time the MNO would not then find it commercially logical to engage in such practices. To have demanded such proof as a condition of being able to impose the cap in the first place would risk defeating the very aim of the exercise which is to protect against such practices, *whenever* they might arise in the relevant period.

192. In short in my judgment if Ofcom establishes: (i) the conduct which "*in principle*" it considers is possible and which could, were it to be engaged in, have anticompetitive effects; and (ii), a market environment which would make the carrying out of such conduct feasible, then Ofcom is entitled to protect against that eventuality by the adoption of prophylactic measures.

193. In this case on the evidence Ofcom has (i) properly identified practices which "*in principle*" would be anticompetitive; and (ii), established with relevant evidence that the market, during the relevant period in the future, is such that BT/EE could engage in such practices successfully. Beyond this there is no need to go. This Ground of challenge fails.

(f) A "merits" sanity check

194. I conclude in relation to this Ground with a sanity check. I am instructed by Article 4(1) of the Directive and the CA 2003 to take account of the merits (see paragraph [35ff] above). This is a case where it is helpful to stand back in order to view the core logic underpinning the Decision in the round. Traditional antitrust theory suggests that the floor for a finding of "*dominance*" (triggering the prohibition on abuse of dominance) is circa 40%. In exceptional cases, where there is substantial asymmetry of market share, then shares lower than this might still connote dominance. BT/EE has, on present analysis, 42/45% of available spectrum; when the cap is fully effective it will have a maximum of 37%. Whilst spectrum holdings are not an exact proxy for market share or market power, they are, as the analysis in the Decision shows, most certainly relevant to that privileged market position. The short point therefore is that 37% is in the ball park of figures that one would expect to see as a threshold marker for a competition concern. Next, the types of anticompetitive conduct that Ofcom has identified as, *in principle,* open to an MNO with a very asymmetrical spectrum holding to engage in, are all recognised as mainstream risks flowing either from bidding markets (strategic investment and/or hoarding) or positions of substantial market leadership characterised by excess capacity (eg discriminatory and differentiated pricing). In short, standing back, there is nothing especially radical or novel about the analysis in the Decision. In addition, Ofcom has concluded that BT/EE is not hindered in its ability to respond to future market development such as the roll out of 5G, at these levels of spectrum holding. BT/EE has not challenged this conclusion. Standing back, this is a Decision justified on its merits.

H. Ground IV (BT/EE): Ofcom acted unlawfully in failing to consult on the removal of the requirement on H3G to reallocate its split spectrum as a condition of participating in the Auction and downgrading that to an option.

(a) Introduction: The issue relating to split assignments (non-contiguous spectrum holdings)

195. I turn now to Ground IV. This concerns the submission of BT/EE that Ofcom acted unlawfully in not properly consulting over an aspect of the Auction rules governing the conditions precedent for H3G to participate in the Auction.

196. BT/EE says that Ofcom had originally decided in relation to a company called UK Broadband (subsequently acquired by H3G in May 2017) that if it wished to participate in the Auction it had to relinquish two licensed assignments of 20 MHz of spectrum which were not contiguous to each other on the band, and obtain a replacement single (contiguous) assignment of 40 MHZ. At some point, which BT/EE says is undocumented and opaque, Ofcom changed its mind without telling anyone and without consulting upon the change of position. BT/EE says that this failure to consult was unlawful.

(b) The Auction

197. To understand this point it is necessary to summarise some factual matters, and in particular to explain how the Auction will work. The Auction design is known as a simultaneous multiple round ascending auction ("*smra*"). In practical terms this means that Ofcom will award the two types of spectrum in parallel with bidding running over multiple rounds with the effect that market clearing prices can be discovered through the process of matching supply and demand. In the first phase (the "*Principal Stage*") Ofcom, as the auctioneer, declares progressively increasing round prices and the bidders each declare in each round how many lots of spectrum they are prepared to bid for at the prevailing round price in each category of available spectrum (ie the 2.3 and 3.4 GHz).

198. There are in total 30 lots of 5 MHz of 3.4 GHz spectrum and a total of four lots of 10 MHz of 2.3 GHz spectrum to be awarded.

199. As the price rises in each successive round of bidding it is assumed the bidders will gradually reduce their demand or drop out altogether until the point where demand no longer exceeds supply in each of the two bands is reached. Ofcom has set reserve prices to ensure if there is insufficient demand the spectrum will not be awarded under a minimum price.

200. After the amount of spectrum won by each bidder has been determined in the Principal Stage there is a yet further round of bidding which occurs to determine *where* within the available 2.3 GHz spectrum and 3.4 GHz spectrum each bidder is to be assigned. This is known as the "*Assignment Stage*". In this round the exact frequencies where a winner's allocation will be placed will be determined. When a bidder has won a given quantity of spectrum the Assignment Stage offers that winner an opportunity to bid for a "*top-up amount*" for a specific assignment of the holding

in their preferred band. The assignment combinations which will be offered to be bid against will seek to ensure that all bidders receive contiguous (ie non-split) spectrum assignments. If a split-assignment is unavoidable then under the Auction Regulations no part of it will amount to a package of less than 20 MHz contiguous spectrum.

201. Under the Regulations participants will be blind as to the specific bids made by other bidders round by round. They will only receive approximate aggregated information (Decision paragraph A10.48). It follows that no bidder will be aware of who it is bidding against and what bids they are placing. This is designed to preclude the possibility of bidders tacitly co-ordinating their bids with a view to bringing the Auction to a premature close.

202. All of these matters are set out in detail in the Regulations.

(c) The 2013 Call for Inputs

203. I turn now to the two spectrum holdings of UK Broadband in the 3.4-3.6 GHz band. These two 20MHz blocks of spectrum are located in separate portions of the bandwidth and are, therefore, not contiguous. In October 2013 Ofcom issued a Call for Inputs seeking views as to whether it should address the fact that UK Broadband held two separate assignments of spectrum and whether they should be relinquished and replaced with a single contiguous assignment. UK Broadband was in favour and put forward various suggestions as to where the relocated assignment should be. However, certain other MNOs objected upon the basis that the positioning of the proposed relocation was an attractive portion of bandwidth which should be awarded *only* by competitive tender, and not by predetermination. Ofcom agreed.

(d) The 7th November 2014 Ofcom consultation: The "Contiguity Decision"

204. On 7th November 2014 Ofcom issued a consultation on "*Public Sector Spectrum Release*" (PSSR) Awards of the 2.3 GHz and 3.4 GHz bands (ie the present proposal). By this consultation Ofcom sought views on its "… *proposal for conducting an auction of 190 MHz of radio spectrum being transferred from the Ministry of defence to civilian use*". The consultation was explicitly intended to obtain views and evidence which would in due course be used to design the Auction, and hence its governing Regulations. It was in this context that Ofcom addressed the issue of split spectrum: Ofcom observed that UK Broadband had secured spectrum rights in the 3.4 GHz band covering most of the country *via* an auction in 2003 and it had acquired further rights through spectrum trading following the auction. Its rights were consolidated into a single UK wide licence which would have expired in 2018. The licence comprises two non-adjacent 20 MHz spectrum blocks (at 3480-3500 MHz and 3580-3600 MHz). In October 2013 Ofcom had consulted on a proposal to consolidate the UK Broadband holding within this band into a single 40MHz contiguous block at 3560-3600MHz, before the award of 3.4GHz band. Subsequently Ofcom decided not to pursue that policy. However, with the advent of the possibility of auctioning 3.4GHz UK Broadband had the opportunity to achieve contiguous spectrum.

205. Ofcom identified the benefits of contiguous spectrum as giving operators the flexibility to deploy large channel sizes and reduce technical constraints due to a lower number of spectrum boundaries between licences. The proposal set out in the consultation document was that if UK Broadband wished to participate in the

forthcoming auction it should be required to give up its present split holding of 40MHz and, in lieu, either be named as a guaranteed winner of 40MHz at the Principal Stage, thereby qualifying for participation in the Assignment Stage, or as a guaranteed participant in the Assignment Stage.

206. On 26th May 2015 Ofcom published a statement (which also included a consultation) entitled "*Public Sector Spectrum Release: Award of the 2.3 and 3.4GHz spectrum bands*". In section 5 under the heading "*UK Broadband and contiguity*", Ofcom reiterated the proposal set out in the 2014 consultation. It observed that it had proposed that UK Broadband would effectively give up its current split holding if it participated but would then be guaranteed to obtain an equivalent, contiguous, amount of spectrum in the auction. Ofcom set out in some detail the *modus operandi* for achieving this replacement process.

207. Ofcom had posed the question whether consultees agreed with this proposal for achieving contiguity. In the Statement Ofcom observed (ibid paragraph [5.12]) that there was unanimity amongst consultees with the proposal. Indeed, UK Broadband also agreed. Under the heading "*Our decision*" (ie the "Contiguity Decision") Ofcom stated:

> "5.14 In light of the unanimous agreement to our proposal - and the lack of any further evidence suggesting any alternative approach - we intend to proceed with our proposed approach to ensuring contiguity of spectrum."

208. The "*proposed approach*" referred to by Ofcom assumed incorporation of the solution into the Regulations, namely by the introduction of pre-conditions on eligibility for pre-existing licence holders of split assignments. It is in fact not disputed that this would be achieved *via* the Auction and therefore that it would have to be reflected in specific Auction Regulations.

(e) The Decision

209. In the Decision there is however no reference to the Contiguity Decision. On the same day as publication of the Decision Ofcom also published (again for consultation) the proposed Regulations governing the Auction. Again, there is nothing in the Regulations which implements the Contiguity Decision and, indeed, in this respect the latest draft Regulations are consistent with the previous drafts which also do not implement or reflect or even refer to the Contiguity Decision. The reasoning in the Decision proceeds upon the basis that H3G, as the new owner of UK Broadband, may participate in the Auction whether or not it relinquishes its split assignment: see Decision paragraphs [8.50] – [8.54] and footnote 97. Ofcom does explain, briefly, that whilst it had originally concluded that it was appropriate to require the pre-existing licence holder (ie UK Broadband) to apply for a replacement licence it had "*subsequently reached the view that it would not be proportionate to impose such a condition, as it would exceed the conditions imposed upon other participants*" – ie it would be discriminatory (ibid paragraph [8.54]).

(f) BT/EE's submission

210. BT/EE argues that at a point that remains unknown and un-evidenced, Ofcom departed from the Contiguity Decision to one where UK Broadband and H3G, as its new parent, now have the option to apply for a consolidation, but are not required so to do as a pre-condition of participation in the Auction. This change was implemented without consultation and represents an unlawful departure from the Contiguity Decision.

211. Ofcom was under a duty to perform a consultation. First, it was required pursuant to the EU Telecommunications Framework Directive Article 6 and Recital 15. Second, an impact assessment was needed for any important proposals pursuant to section 7 CA 2003 and the change from a requirement to an option amounted to an important proposal given the reasoning which Ofcom accepted in the 2014 consultation and 2015 Contiguity Decision. Third, Ofcom's own published Consultation Principles require it to be clear and transparent about whom Ofcom is consulting, why, on what question and for how long. These legal obligations, individually and collectively, compel the conclusion that a fresh consultation was required in the event that Ofcom was to depart from its previously stated, and consulted over, position.

212. Permitting H3G to bid without having, first, to seek, a replacement licence is problematic. Under the Auction rules H3G has an option, but not an obligation, to have the two split blocks consolidated into a single 40 MHz block. If however H3G does apply for a replacement licence then all winners of spectrum in the forthcoming auction would receive contiguous assignments ie packages of spectrum in single blocks and not split between two sub-bands (of 70 MHz and 80 MHz) divided by the existing lower 20 MHz block held by H3G. If H3G does not apply for the consolidation of its existing spectrum then, according to the Auction rules, if all spectrum is sold then only a winner of 70 MHz or 80 MHz of 3.4 GHz spectrum would be guaranteed a contiguous assignment. A winner of 75 MHz or 85 MHz would, however, receive a split assignment. Winners of other package sizes will be exposed to differing degrees of risk of receiving split assignment depending upon what package size others might obtain.

213. In witness statement evidence before the court Ms Inge Hansen (Director of Regulation, BT) explained the problem thus:

> "To take a basic scenario, if the 150 MHz of 3.4 GHz for Auction was split evenly three ways (ie with three operators winning 50 MHz each) then there would be no way of allocating the spectrum in a way that avoided splitting at least one of the allocations. Each of the three winners would have a 33% chance of a split allocation, and would have to bid in the assignment round to try and reduce this risk."

214. Ms Hansen also states that vendors of equipment have advised BT/EE that a split assignment within the 3.4 GHz band would not be supported in the initial 5G equipment standards meaning that for early 5G deployments a MNO would face the choice of two separate launches leading to additional network costs, poorer consumer experience, and delay. Any split which exceeds 100 MHz is likely to exacerbate such problems. Since bidders cannot know whether they will end up with a split

assignment at the culmination of the assignment stage they cannot take into account any reduced utility of such an assignment in their initial bidding strategies and prices.

(g) Ofcom's submissions

215. Ofcom acknowledges that it has changed its position. However, it argues that it conducted a fair and sufficient consultation on the various iterations of the Auction Regulations and BT/EE had a full opportunity to make representations over a number of years. The decision not to require H3G to apply for a replacement licence involved the consideration of competing factors and was proportionate and reasonable. It accorded with the principle of non-discrimination. But in any event in law Ofcom is afforded a wide degree of discretion as to the options upon which it is required to consult. There was no obligation to consult on alternative options which were common knowledge to consultees. In the present case the consultees were sophisticated entities with an intimate knowledge of the issues consulted upon and they, and in particular BT/EE, had ample opportunity to set out alternative options in detail and to make representations about all matters relating to the architecture of the Auction. They chose not to do so in relation to the change from a requirement to an option and have, for their own commercial and tactical reasons, decided to raise this at the last moment by way of judicial review in the present proceedings.

216. The shift from a requirement to an option was not in any event fundamental. It is desirable that bidders should acquire contiguous spectrum in the Auction and that contiguity can give rise to efficiencies; but there is, nonetheless, a trade-off between requiring a bidder to apply for a replacement licence, thereby increasing the potential for contiguity, and giving the bidder the option of so-doing. If a bidder is required to obtain a replacement licence and contiguous spectrum it incurs costs. There are relocation costs enabling its network to operate at alternative frequencies, in the form of increased equipment costs and potentially poorer network performance with an adverse impact upon existing customers (Decision paragraph [8.58]). Ofcom's change to the Contiguity Decision did not result in a "*very real risk of additional split spectrum holdings*". Ofcom assessed the likelihood of split assignments pursuant to the Auction and concluded that, even if H3G did not apply for a replacement licence "*a split assignment is relatively unlikely*". Ofcom concluded that there were: "…*a large number of possible allocations*", which would not give rise to split holdings (Decision paragraph [8.78]). It was open to a bidder to bid for specific quantities of spectrum which would avoid a split or it could bid to avoid a split by expressing a higher relative value for a contiguous assignment at the Assignment Stage. But even if there were split assignments the resulting inefficiency could be mitigated because spectrum holders could employ technological remedies such as carrier aggregation (Decision paragraph [8.78]); it was also open to holders subsequently to endeavour to trade spectrum in order to acquire contiguous blocks.

217. The ultimate position of Ofcom (in its skeleton argument) was expressed in the following terms:

> "In the light of the costs to H3G of requiring it to divest, and the low possibility that the Contiguity Decision would result in split assignments, Ofcom considered that to require H3G to relinquish its current spectrum holdings in order to participate in the Auction would be unfair and disproportionate…. It would have the effect of imposing

> on H3G a fee for entry, which was not suffered by other MNOs in order to ensure against a risk that Ofcom thought was relatively unlikely. That was a reasonable judgment, and a decision which Ofcom was entitled to take."

(h) Analysis and discussion: The consultation point.

218. I do not accept BT/EE's argument. I have arrived at this conclusion *even though* I take as the starting point for analysis that Ofcom should have highlighted at some appropriate and early point that it had changed its mind and was not intending to implement the Contiguity Decision. That decision was adopted only shortly before the 2015 Consultation and, all things being equal, the reasoning in the Contiguity Decision will have been treated as having continuing force. I accept that Ofcom was entitled to change its mind, as it manifestly did. But it should have alerted its consultees to this change and it should also have provided some explanation for the shift in position.

219. The question, therefore, is whether the consultation was nonetheless fair? On this I have concluded, on the evidence, that it clearly was. In short there was a consultation on the Regulations which included the right of UK Broadband (and H3G) to participate in the Auction and under what conditions; the point that Ofcom omitted to flag up was an obvious one which consultees either will have understood or, at the very least, should have understood as obvious. The failings that Ofcom is guilty of are far from being material.

The change of position was evident from the October 2015 Consultation and accompanying draft rules

220. First, to comply with the principle of transparency which applies as a matter of EU and domestic law (see paragraph [25]- [33], [211] above) the rules of an auction must be comprehensively set out in advance so that all putative participants know the rules of the game, and can devise their bidding strategies accordingly. It is trite that the rules of an auction can affect the outcome. To take an obvious illustration the rules governing eligibility to bid (participation and disqualification) might constrain the number of bidders and this, in turn, could affect the amounts bid. It is for this reason that Ofcom consults on the draft Regulations and why they should be comprehensive; nothing material should be left out.

221. It is correct to say that in the Consultation of 26th October 2015 Ofcom did not *explicitly* set out that it had altered its position on UK Broadband and contiguity. However, it was nonetheless clear that it had done so, and this was (or would have been) obvious. After all if the Contiguity Decision was to be implemented it had to be *via* the Regulations and if these omitted measures to implement that decision then this was an obvious and glaring omission. In fact it is wrong to describe the issue as being one of omission because the issue in question <u>is</u> explicitly addressed in the Regulations in a manner which is contradictory to the Contiguity Decision. The accompanying notes to the draft Regulations summarise the structure of the Regulations including the provisions governing eligibility and disqualification to bid. Nothing in those sections states that UK Broadband can only qualify if it applies to replace its split spectrum with contiguous spectrum. In the notes there is also an entire section entitled "*Participation by UK Broadband or UKB Networks Ltd"* (ibid

paragraphs [2.39] and [2.40]) which is premised upon the *possibility* (but not the certainty or requirement) that those two companies (which are sister companies) apply for replacement licences and it sets out how Ofcom proposes to structure the Auction to enable the relinquishment and replacement process to occur. Ofcom contemplated that if there was an application to replace the licence then this would be resolved during the Assignment Stage of the bidding process. It explains that this was elaborated upon in draft Regulation 17 (see below).

222. In paragraph [2.72.2] Ofcom addressed the situation that would arise if UK Broadband "… *does not apply for a replacement licence, does not qualify to participate in the auction, or is otherwise excluded*". The clear premise is that UK Broadband could apply to participate in the auction even if it did not apply to replace its licences because otherwise it would be excluded without recourse having to be made to other rules governing qualification or disqualification.

223. Draft Regulation 17 governs applications for replacement licences and is concerned with a "pre-existing licence holder", a category defined in the draft Regulations as meaning only UK Broadband and its sister company. Regulation 17 thus expressly addressed the position of UK Broadband. It does not say that the holder of a split licence can only apply for new spectrum on condition that it applies to replace its split licences with contiguous licences. If such an obligation had been imposed it would inevitably have been included in Regulation 17 or, if not there, in another part of the Regulations. Read in conjunction with the explanatory notes this will have been self-evident. Draft Regulation 17 read:

> **"17.** — (1) A replacement licence is a licence which may be granted to a pre-existing licence holder if it applies for a licence which authorises the use of a block of eight 3.4 GHz frequency lots to replace the pre-existing licence, is qualified to participate in the award process and is not excluded from the award process (it "bids for a replacement licence").
>
> (2) A pre-existing licence holder may only apply for a replacement licence if it commits to the surrender, and has procured the commitment of the other pre-existing licence holder to surrender the pre-existing licence on grant of the replacement licence pursuant to these Regulations.
>
> (3) The pre-existing licence holder may choose to participate in both the principal stage and the assignment stage, or only in the assignment stage.
>
> (4) Where the pre-existing licence holder bids for a replacement licence, it will be treated, for the purposes of the assignment stage, as a winning bidder in respect of eight 3.4 GHz frequency lots, but not any particular numbered 3.4 GHz frequency lots (the "replacement lots") and may make assignment stage bids, without first having made principal stage bids, and without owing a base price.

(5) If the pre-existing licence holder participates only in the assignment stage, it may make assignment stage bids for the block of 3.4 GHz frequency lots which comprises the replacement lots.

(6) If the pre-existing licence holder is the winning bidder for any 3.4 GHz frequency lots as a consequence of bidding in the principal stage, such 3.4 GHz frequency lots will be referred to as the additional 3.4 GHz frequency lots.

(7) If the pre-existing licence holder participates in both the principal stage and the assignment stage, it may make assignment stage bids for—

(a) the block of 3.4 GHz frequency lots which comprises the replacement lots (if it is not a winning bidder for either additional 3.4 GHz frequency lots, or 2.3 GHz frequency lots);

(b) the block of 3.4 GHz frequency lots which comprises the replacement lots and any additional 3.4 GHz frequency lots won in the principal stage (if it is a winning bidder for additional 3.4 GHz frequency lots in the principal stage); and

(c) the block of 2.3 GHz frequency lots won in the principal stage (if it is a winning bidder for 2.3 GHz frequency lots in the principal stage).

(8) If the pre-existing licence holder participates only in the assignment stage, or it participates in both the principal stage and the assignment stage, but was not a winning bidder in respect of additional 3.4 GHz frequency lots or 2.3 GHz frequency lots, OFCOM will grant the 3.4 GHz licence holder a replacement licence only.

(9) If the pre-existing licence holder participates in both the principal stage and the assignment stage and it won additional frequency lots in the principal stage, and subject to the requirements set out in regulation 82, OFCOM will grant the pre-existing licence holder both a replacement licence, a separate licence for any 2.3 GHz frequency lots in respect of which it was a winning bidder (if any) and a separate licence for any additional 3.4 GHz frequency lots in respect of which it was a winning bidder (if any).

(10) Whether or not a pre-existing licence holder bids for a replacement licence, only thirty 3.4 GHz lots (numbered 1 to 14 and 19 to 33) shall be included in the principal stage.

> (11) If a pre-existing licence holder bids for a replacement licence, all thirty-eight 3.4 GHz frequency lots (numbered 1 to 38) shall be included in the assignment stage round.
>
> (12) If a pre-existing licence holder does not bid for a replacement licence, only thirty 3.4 GHz lots (numbered 1 to 14 and 19 to 34) shall be included in the assignment stage round.
>
> (13) Where the pre-existing licence holder applies for a replacement licence and qualifies to participate in the award process, but it is subsequently excluded from the award process under these Regulations, OFCOM will notify the other bidders of that fact."

224. BT/EE submitted detailed comments on the draft Regulations. These did not however comment upon the omission of an obligation upon UK Broadband to apply for a replacement licence as a pre-condition of participation in the Auction or on the ability provided for in the Regulations for UK Broadband to participate. Vodafone has given evidence before the Court that it was aware, from the draft Regulations, that Ofcom had changed its position. Vodafone says that the change was not of commercial significance to it. H3G has also given evidence that, when it acquired UK Broadband, it understood the non-implementation of the Contiguity Decision in the draft Regulations (and the adoption of the contrary position) as indicating that Ofcom had changed it stance and that which had been a requirement was now only an option.

225. In my judgment the 2015 draft Regulations made the position clear and any MNO, including BT/EE, was able to comment upon the new, changed position.

The change of position was evident from the November 2016 Consultation and accompanying draft rules

226. In November 2016 Ofcom published a further set of draft Regulations taking into account responses from consultees. The new draft Regulations, like the precursor draft, did not impose pre-conditions upon UK Broadband. Again, BT/EE made submissions and did not comment upon the position of UK Broadband. Regulations 4, 11 and 12 set out qualification criteria governing who can apply to participate in the Auction. They do not differentiate as between possible bidders depending upon whether they pre-hold contiguous or split spectrum. Regulation 11 covers fitness to hold a licence and defines a category of disqualified bidders and a person in the position of UK Broadband was not precluded. There was nowhere a suggestion that participation in the Auction would be barred to a pre-existing licence holder of non-contiguous spectrum who did not make a prior application to replace the licence.

The Decision does not raise the issue for the first time

227. When Ofcom published the Decision in the present case in July 2017 it also published a further consultation on the Auction Regulations which, once again, reflected the shift in Ofcom's position: See eg draft Regulations 24(1a), 67(2) and 79. BT/EE submitted a response which, for the first time, addressed the issue of contiguity. It

argued that Ofcom's decision "*raises the prospect that H3G/UKB do not relinquish their pre-existing 3.4 GHz spectrum*…".

228. In fact, the Decision did not "*raise the prospect*"; it had already been flagged and had been waving in the wind for over two years.

BT/EE either knew or should have known of the change of position

229. In the witness statement evidence served with the application BT/EE did not squarely address the question whether as a matter of fact it was aware of the implications of this part of the Regulations when the point first arose in October 2015.

230. In the course of the hearing of the judicial review BT/EE submitted new witness statement evidence describing how it undertook the consultation exercise in 2015. It is explained that it instructed an external expert to assist in the analysis of the draft Regulations. The statement is brief. The thrust of the evidence is that no one in BT/EE noticed the point. The evidence was subjected to intense criticism by the other parties who argued that it was cursory, ambiguous and incomplete. Moreover, it was a point which should have been covered in BT/EE's evidence from the outset and it was not supported by relevant disclosure. It was, in addition, counter-intuitive and inconsistent with the evidence of Vodafone and H3G both of whom, institutionally, were aware of the change of position and able to be fairly consulted. I consider the evidence to be unsatisfactory. I find the idea that BT/EE did not notice the change of position remarkable given their immense experience in auctions and their governing rules, and the fact that BT/EE instructed external experts to help them prepare their response to the consultation. On the basis of the evidence initially submitted I would have inferred that BT must have known of the change of position. To maintain that conclusion I would have to reject outright the latest evidence. However unsatisfactory that evidence is, it has nonetheless put the question of institutional knowledge into issue. It is not therefore an issue I can fairly decide against BT/EE (however tempting) on the evidence in its present state. This conclusion does not, however, preclude a finding that the consultation was fair.

231. Even if there were compelling evidence that I accepted establishing that BT/EE did not know, I would still conclude that it *should* have known and that the consultation was fair. I accept that had best administrative practice been followed Ofcom would have explicitly flagged up that it had changed its position rather than leaving the point to be deduced inferentially. But, nonetheless, the point was *still* sufficiently clear and obvious to any MNO such that any administrative shortcomings by Ofcom in this respect were immaterial. Consultations of this sort are directed at highly specialised and expert addressees. Ofcom has been using auctions as the preferred device for the award of spectrum licences for many years and BT/EE is vastly experienced in these processes. It understands the "*ins*" and the "*outs*", and the nuances, of each and every one of the Auction Regulations. It cannot be argued that the point was hidden or submerged in technical detail and that it was reasonable for an MNO not to notice the omission.

232. The fact that the relevance of the drafting of the Regulations and the non-inclusion of the condition precedent was appreciated by Vodafone and H3G (O2 has not put in evidence on the point) supports my conclusion.

(i) The relevant law

233. In order to circumvent these evidential difficulties Mr Beard QC retreated to a legal position, namely that if I found that Ofcom had failed to provide proper notice of its change of position and/or to provide reasoning explaining the change then, without more, the Auction was unfair and unlawful. He argued that following the judgments of the Supreme Court in *R (Moseley) v London Borough of Haringey* [2014] UKSC 56 ("*Moseley"*) the fairness of a consultation was to be judged by reference to whether there was compliance with one or more of four governing criteria. These were set out in the judgment of Lord Wilson (with whom Lord Kerr, Baroness Hale and Lord Clarke agreed) who stated that the time had come to accept the "*Sedley criteria*", which had been endorsed by the Court of Appeal is a series of earlier cases: *R v Brent London Borough Council, ex p Gunning,* (1985) 84 LGR 168 ("*Gunning"*) *per* Hodgson J at page 189; *R v Devon County Council, ex parte Baker* [1995] 1 All ER 73 at pages [87] and [91]; *R v North and East Devon Health Authority, ex parte Coughlan* [2001] QB 213 at paragraph [108]; and, *R (Royal Brompton and Harefield NHS Foundation Trust) v Joint Committee of Primary Care Trusts* [2012] EWCA Civ 472 ("*Royal Brompton*"), at paragraph [9]. Lord Wilson in *Moseley* (ibid paragraph [25]) endorsed the formulation of the Sedley criteria in *Gunning,* which was in the following terms:

> " … these basic requirements are essential if the consultation process is to have a sensible content. First, that consultation must be at a time when proposals are still at a formative stage. Second, that the proposer must give sufficient reasons for any proposal to permit of intelligent consideration and response. Third,… that adequate time must be given for consideration and response and, finally, fourth, that the product of consultation must be conscientiously taken into account in finalising any statutory proposals."

234. Lord Wilson also endorsed the observation in *Royal Brompton* that these criteria were "*a prescription for fairness*". Whether in a given case the criteria were infringed would always be highly fact specific. In *Coughlan* (ibid at paragraph [112]) Lord Woolf MR stated (as approved of by Lord Wilson in *Moseley)*:

> "It has to be remembered that consultation is not litigation: the consulting authority is not required to publicise every submission it receives or (absent some statutory obligation) to disclose all its advice. Its obligation is to let those who have a potential interest in the subject matter know in clear terms what the proposal is and exactly why it is under positive consideration, telling them enough (which may be a good deal) to enable them to make an intelligent response. The obligation, although it may be quite onerous, goes no further than this."

235. Later, at paragraph [26], Lord Wilson identified two contextual factors which could affect the specificity of the consultation. The first was the identity of the addressees:

> "Two further general points emerge from the authorities. First, the degree of specificity with which, in fairness, the public authority should conduct its consultation exercise may be influenced by the identity of those whom it is consulting. Thus, for example, local authorities who were consulted about the government's proposed designation of Stevenage as a "new town" (*Fletcher v Minister of Town and Country Planning* [1947] 2 All ER 496 at p 501) would be likely to be able to respond satisfactorily to a presentation of less specificity than would members of the public, particularly perhaps the economically disadvantaged…."

236. At paragraphs [27] and [28] Lord Wilson observed that sometimes it would be good practice to consult on "*arguable yet discarded alternative options*", by inclusion of a "*passing reference*".

237. Lord Reed agreed in large measure with Lord Wilson (ibid paragraph [34]) but preferred to rationalise the case upon the basis that it concerned a statutory, not a common law, consultative obligation. He did however emphasise (ibid paragraph [35]) that the content of the common law duty to consult was highly fact and context specific: "*The common law imposes a general duty of procedural fairness upon public authorities exercising a wide range of functions which affect the interests of individuals, but the content of that duty varies almost infinitely depending upon the circumstances.*" The remainder of the Court did not identify any material difference between the analysis of Lord Wilson and Lord Reed and therefore agreed with both judgments – see paragraph [44].

238. In my judgment the Sedley criteria are not hard and fast rules that can be mechanistically applied so as to lead to a rigid and certain result. They are lodestars guiding the overall assessment that must be made of the facts to see whether addressees of a consultation had, in a real and practical sense, been accorded a fair opportunity to express their views and opinions. The Sedley criteria, by their nature, are not capable of serving as definitive rules; they amount to four broad tests to be applied to the facts of each case. They concern: (i) the point in time at which the consultation must occur; (ii) the sufficiency of the reasons enabling the addressee to understand how to respond; (iii) the sufficiency of the time granted to enable proper responses; and (iv), the taking into account of the facts and matters submitted by consultees. The ultimate litmus test is simply fairness; so how the application of the criteria play out in a particular case will depend upon all of the surrounding circumstances.

239. And importantly the criteria do <u>not</u> do away with the requirement of materiality which indicates that for a breach of the criteria to be dispositive that breach must make an actual difference to fairness. If the consultation is fair notwithstanding non-observance with one or more of the criteria, then it will be non-material and the consultation will remain fair. This was illustrated by the stance adopted by the Court of Appeal in *R (ex parte Sumpter) v Secretary of State for Works and Pensions* [2014] EWCA Civ 1033 at paragraph [58]:

> "It was and is common ground that the task for the judge was to decide on the overall fairness (and thus, the lawfulness) of the consultation processes as a whole. Clearly, the 2012 consultation document had its deficiencies which the judge recognised and the true question for him was whether, looked at overall, the information given throughout the process was fair and adequate and whether the consultees had a real opportunity to affect the policy to define the Mobility activity as formulated at a time when there was a real possibility that that policy might be changed."

240. I now apply the law to the facts. In the present case the alternative of compelling UK Broadband (and hence H3G) to seek replacement licences as a condition of being entitled to participate in the Auction was a discarded alternative solution and it should have been highlighted, even if only by a passing reference and some short explanatory reasons. The failure to do so can be classified as a breach of the principles of transparency and/or good administration. However, on the facts of this case the consultation remained fair and it met its purpose of affording to the MNOs a full and proper chance to address all aspects of the Regulations concerning the proposed Auction, and this included all facets of the position of UK Broadband, whose right of participation was set out squarely in the draft Regulations, from 2015 onwards, and would have been (or should have been) well understood by the addressee MNOs. In the light of the case law I do not therefore accept Mr Beard QC's argument that because I have found that in some respects Ofcom failed, that the consultation is thus necessarily unfair.

(j) Conclusion: the change of position was subject to consultation

241. In my judgment the issue of split-assignments was subject to a consultation process that was fair. The submission that it has not been, does not succeed.

I Ground V (BT/EE): The decision of Ofcom to depart from the Contiguity Decision and remove the requirement on H3G to reallocate its split spectrum as a condition of participating the Auction and to downgrade that to an option was unlawful as lacking merit.

(a) BT/EE's submission

242. I turn now to BT/EE's alternative argument which is that in any event the decision not to require H3G to apply for a licence consolidation as a condition of participation in the Auction was wrong on the merits. By changing its position from that set out in the Contiguity Decision Ofcom has unjustifiably increased the risk of a split assignment leading to an Auction where valuation of spectrum is distorted by this risk and the ultimate outcome may be inefficient. These difficulties were avoided by the Contiguity Decision and the failure to implement it has therefore left those problems extant.

243. I deal with this Ground as an alternative, in the event that I am wrong in relation to Ground IV. If I am right in relation to the fairness of the consultation, then the points now made are all points BT/EE could have made during the approximately two years

during which the draft Regulations reflected Ofcom's present position and were the subject of consultation.

244. Indeed, it must follow from my findings above in relation to the point in time when it did, or should have, come to BT/EE's notice that there had been a change in position that the challenge set out in Ground V is barred because of delay. The advancing of this point at the 11th hour is far too late.

(b) Evidential issues relevant to the approach to be adopted by the Court

245. I have set out at paragraphs [41ff] above my conclusions on how the Court's unusual appellate jurisdiction should apply in this case and how any assessment of merits will be contingent upon the quality of the evidence tendered by the parties and upon the nature of the decision being challenged. This Ground sits at the very margins of the Court's jurisdiction. BT/EE invites the Court to reject Ofcom's decision not to implement the Contiguity Decision upon its intrinsic merits. The Court is asked to do this on the limited evidence that is before the Court. It has not been suggested that the Court should order disclosure or hear experts on the point.

246. I am struck in relation to this point that the evidence that BT/EE has adduced is extremely generalised. It is based upon witness statement evidence from Ms Hansen from BT/EE. With respect to her, the evidence (most of which is said to be confidential) is very high level and in key respects it is multiple unattributed hearsay. For instance, in relation to one point concerning carrier aggregation (the detail of which is addressed in confidential evidence before the court) she states that she has been told something by her (unidentified) colleagues in BT Technology Service and Operations who have given her advice as to how (in their view) the relevant standards body, 3GPP, and other commercial counterparts (also unidentified), would react to split assignments. It is unclear whether Ms Hansen's colleagues are speculating as to the reaction of third parties or whether they have specific evidence and information. It is upon this unevidenced and unattributed basis that she then goes on to draw adverse inferences about the timing of the commercial deployment of split assignments of 3.4GHz spectrum. And that inference itself is unevidenced, even though it is precisely the sort of conclusion that could only ever have been arrived at by reference to detailed commercial and possibly expert assessments which are based upon a series of assumptions. I do not conclude that simply because this evidence is unattributed hearsay it is inadmissible; I do conclude that its probative value is limited, especially as it is in support of an argument advanced by BT/EE that I should find that Ofcom's decision on this point lacks merit.

247. Another example relates to BT/EE's response to Ofcom's explanation that difficulties arising through split assignments can be mitigated through spectrum trading. Ms Hansen states that she does not consider this to be a "*credible option*" because a resolution through trading would be "*highly likely"* to require multi-party swaps including the parties who do not have a split assignment and therefore have little incentive to move. She says that this is to be combined with the "*likelihood*" that operators "*may*" look to deploy their spectrum for 5G in the near term. Again, this is advanced as a reason why I should find that Ofcom's position lacks merit. But there is, apart from this statement of Ms Hansen's opinion, no evidence which I have been pointed to which permits her view to be tested or evaluated. Her position depends upon probabilities and likelihoods and an analysis of incentives. In many other

situations this sort of evidence would be adduced through sophisticated modelling. I do not ignore this evidence, but again it can carry but modest weight in its present broad-brush form.

(c) Discussion and analysis

Ofcom's approach

248. Ofcom, in its response, acknowledges two important points. First, that all things being equal (in an ideal world) the Auction would result in the award of contiguous licences only. Second, that there is some degree of inconvenience to be attached to split licences. Ofcom then place these dis-benefits into a broader context which measures them qualitatively and balances them against: the principle of non-discrimination; the cost to H3G; the magnitude of the risk; and, the availability of means to circumvent and avoid the acknowledged inconveniences.

The principle of non-discrimination means that absent due reason Ofcom cannot differentiate between H3G and rival bidders

249. First, Ofcom correctly takes as a starting point that imposing a condition upon H3G is *prima facie* discriminatory. To impose a pre-condition would be to differentiate H3G from other rival bidders yet the relevant regulatory rules impose a duty of non-discrimination upon Ofcom. This applies to the rules governing auctions such that *prima facie* participating MNOs should be treated as being in an equal and undifferentiated position. The question then arises whether H3G as the possessor of two split awards in the 3.4GHz band is to be treated, *by that fact alone*, as being in a sufficiently different situation to its rivals to justify different treatment. In this respect the starting point is that H3G is a competitor to the other MNOs and potential bidders in the Auction and it is the lawful grantee of the split licenses from Ofcom. The system has thus tolerated the grant and maintenance of split licences in the past. To single H3G out *now* is to depart from that accepted and tolerated *status quo ante.* A decision by Ofcom now to impose a rule which treats H3G differently from its rivals must therefore in law be objectively justified and whether such a justification exists depends upon the balancing of the benefits and dis-benefits both to the market as a whole, but also to H3G.

There is no objection in principle to Ofcom changing its position

250. Second, it is of course correct that in the 2015 Contiguity Decision Ofcom did, having consulted, take the view that the licence holder (UK Broadband) should be subject to an intrusive measure. And indeed, UK Broadband did not at that time object. However, Ofcom changed its mind at some point before October 2015 when it consulted on the draft Auction Regulations and did not implement the Contiguity Decision in the drafting. No one has argued that *in principle* Ofcom is not entitled to change its mind, and to have suggested otherwise would be untenable.

There is a proper evidence basis indicating a low likelihood of split spectrum assignment

251. Third, a key issue is the *likelihood* of split assignment arising following the Auction. If in fact the likelihood is low, then the problems associated with split assignments

will be commensurably low. Ofcom says that the risk of split spectrum arising is '*relatively unlikely'*. As part of the November 2014 Consultation Ofcom instructed external economists (DotEcon) to assess the consequences of UK Broadband retaining split-assignment and the Auction proceeding upon that basis. They were also asked to consider how split assignments could be eradicated during the Auction process, for example during the Assignment Stage. In their Note report (which is Annex 7 to the Consultation document – "*Fragmented assignments in the 3.4GHz band*") they considered the likelihood of split assignments having to be awarded. The answer depended upon the number of bidders that ultimately won spectrum and the size of the lots that were up for sale. The economists concluded that if the lots were of 5MHz bands and if there were 3 winners then the number of cases where split assignments would be necessary was "*relatively modest*" and the percentage reduced if the number of winners was 4. Ofcom has relied upon this expert conclusion, that the incidence of the risk of split assignment was "relatively modest", as indicating that to refrain from imposing pre-conditions on H3G, is not a problem of significant practical magnitude.

252. BT/EE says only that Ofcom's analysis is cursory based upon *possible* outcomes which do not take into account their likelihood and, on any basis, it remains a significant risk. BT/EE suggests that bidders risk being deterred from bidding optimally by fear of split assignments. I do not accept BT/EE's point. The DotEcon report is relevant because it demonstrates both that quantitative analysis is possible in order to generate a reasonably robust conclusion about the likelihood of split assignments ultimately being awarded, and that an expert view can be expressed about the scale of the problem ("*modest*"). Ofcom therefore had an evidence base upon which to found its conclusion. BT/EE has not advanced any equivalent or comparable analysis suggesting that upon the basis of the Auction rules as they are presently configured (which remains upon the basis of 5 MHz lots in the 3.4 GHz range) that Ofcom's conclusion is incorrect. The likelihood of split assignments is clearly important: If there will, in practice, be a low likelihood of such arising then, it follows, that all the hypothesised associated problems will be small in scale and extent and will weigh only lightly in the overall proportionality scales.

There is evidence of an adverse effect upon H3G

253. Fourth, Ofcom explains that when it came to conduct a fresh balance between pros and cons it took into account that to compel H3G to relinquish its licences as a condition of being able to bid would impose costs upon H3G. Confidential information has been provided to the Court as to the nature and the scale of the burden on H3G were it to be required to apply for a replacement licence and which takes account of the impact of relocation of the whole of the spectrum to elsewhere in the band. The adverse impact was not just in terms of costs (which while not substantial were far from being trivial) but also in the adverse impact upon service *quality.*

254. Under the present regime if H3G is to apply to relinquish its split holdings and obtain a replacement contiguous assignment it must bear all of the costs itself. Further, there is no guarantee as to the location on the spectrum of the replacement assignment. Evidence before the Court indicates that for H3G if there was no certainty as to *where* on the spectrum its replacement licence would be, this increased its commercial risk. It is common ground that not all points on the spectrum are of equal convenience and utility to MNOs.

255. BT/EE argued that the costs to H3G were in the overall scheme of things, "*limited"* when one compared H3G's predicted costs with Ofcom's £70 million reserve price across the entire Auction. In any event Ofcom has not tested the credibility of H3G's estimate, as it would be expected to do in a proper consultation process. In fact, there is no reason to doubt that H3G's estimates are in the ball park and suffice to indicate that Ofcom was reasonable in accepting the scale and extent of the costs indicated by H3G. Further, BT/EE has not addressed H3G's concern that if it was being required to relinquish its present holding without any guarantee as to the location of the replacement on the spectrum this increased the risk to the quality of the service it provided. The issue is not just one of cost to H3G, it is also potential impact upon service quality.

The scale of the technical problems are mitigated in part by other factors

256. Fifth, Ofcom also identifies that there are '*technological developments including… our proposal for synchronisation remedies"* in the case of a split assignment which in large measure overcome the difficulties identified. This was Ofcom's position as set out in the 7th November 2016 Consultation (at paragraph [4.43]). BT/EE counters that downstream, at the retail level, there is no momentum for vendors to offer such solutions. But this is advanced as a generalised statement without supporting evidence.

257. Ofcom also identifies spectrum trading as a possible commercial solution. BT/EE says that this is "*unrealistic"* upon the basis that those without a split assignment will have little incentive to participate in multi-party swaps. Once again there is no evidence to support the assertion.

Overall balance

258. Ofcom concludes that when balancing pros and cons it would be disproportionate to impose the condition on H3G. Since there is no obstacle in principle to a regulator changing its mind that fact alone cannot be dispositive. What matters now is not what the MNO's past position was, but, rather, whether the present position of H3G and Ofcom is justifiable. I observe that in this litigation neither Vodafone nor O2 support BT/EE on this; it is not an issue of such importance that they consider it worthwhile objecting to the change of position.

(d) Conclusion

259. This Ground only arises if I am wrong on Ground IV. I do not accept this Ground of challenge. No evidence has been adduced which casts doubt upon Ofcom's analysis or reasoning. In my judgment the position adopted by Ofcom is economically logical. I am satisfied that there is a proper evidence base for this conclusion. I therefore conclude, on the merits, that the Decision in this regard was a lawful one and I reject this Ground of challenge.

J Conclusion

260. For all the above reasons the Claims of H3G and BT/EE do not succeed.