

Response to the consultation questions to be found in the “Award of the 700MHz and 3.6 – 3.8GHz spectrum bands”:-

Question 1: (Section 4) Do you agree with our proposals on the coverage obligations as set out in this section?

Sections 4.2 to 4.4 state that the two coverage obligations (a 90 second phone call and 2Mbits/sec) across 90% of the UK landmass will be part of this spectrum award. The assumption is that these obligations apply to 5G services, however Section 1.2 uses the phrase “...including 5G.” So the twin obligations can in principle be achieved using a combination of mobile technologies.

In March 2018 letters sent by Ofcom to the MNO’s confirming that they achieved the 90% landmass coverage obligation for mobile voice services. This confirmation was based on coverage predictions and associated thresholds as reported in Ofcom’s document “Voice Coverage Obligation Notice of Compliance Methodology” dated January 2015.

Since the new spectrum award is mobile technology agnostic and the MNO’s have already reached the proposed 90% coverage obligations, no further investment is required. Clearly, as demand increases, the NMO’s will incorporate 5G as a carrier, but there is no meaningful obligation to improve the landmass coverage figure.

The Award Consultation document assumes that the twin coverage obligations apply to 5G technology, however this is inconsistent with Sections 1.2 and 10.17. Either the 700MHz and 3.6-3.8GHz bands are 5G only and the coverage obligations apply to the deployment of 5G, or these bands, like all the other cellular bands, are technology agnostic and the coverage obligations have already been met.

Question 2: (Section 5) Do you agree that we have identified the correct competition concerns?

No comments.

Question 3: (Section 5) Do you agree with our assessment of these competition concerns, and our proposed measure for addressing them?

No comments.

Question 4: (Section 6) Do you agree with our proposal to proceed with a conventional assignment stage?

No comments.

Question 5: (Section 7) Do you agree with our proposal to use a CCA design for this award?

No comments.

Question 6: (Section 7) Do you have any comments on the proposed detailed rules for our CCA design?

No comments.

Question 7: (Section 8) Do you agree with our proposed approach to coexistence in the 700MHz band?

No comments.

Question 8: (Section 8) Do you have any comments on the proposed licence obligation and guidance note (annex 19)?

No comments.

Question 9: (Section 9) Do you agree with our proposed approach to managing interim protections for registered 3.6-3.8GHz band users?

No comments.

Question 10: (Section 9) Do you agree with our 3.6-3.8GHz in-band restriction zone proposals?

No comments.

Question 11: (Section 9) Do you agree with our view that we do not need to include any specific conditions in the 3.6-3.8GHz licences to mitigate the risk of adjacent band interference?

No comments.

Question 12: (Section 10) Do you agree with the non-technical conditions that we propose to include in the licences to be issued after the award of the 700MHz and 3.6-3.8GHz bands?

Sections 10.22 and 10.23 are concerned with roaming. Is this roaming amongst the UK MNO's, or roaming from non-UK MNO's, or roaming with new UK infill networks resulting from the "Opportunities for Innovation" proposal dated 18th Dec 2018?

However Section 1.7 introduces the concept of the MNO's using a third party host network to contribute towards their coverage obligations, which does implies intra-UK roaming.

Question 13: (Section 11) Do you agree with the technical licence conditions we propose?

No comments.

Additional comments:-

1. The top level coverage requirement is 90% landmass and this breaks down into 90% of England and NI, 74% of Scotland and 83% of Wales. According to the Ofcom letter to the MNO's dated 9th March 2018, the MNO's achieved the 90% requirement by the end of 2017.

It remains most peoples experience that today's coverage is disappointing and Section 4.3 recognises this. However since the 90% figure has been achieved, Section 4.3 is obsolete. Alternatively, the 90% figure is not adequate and a revised landmass coverage percentage is required.

2. Section 1.7 introduces the concept of the MNO's using a third party host network to contribute towards their coverage obligations, which is a welcome proposal. However, unless the landmass coverage obligations are revised upwards, the MNO's will not see a potential value in third party host networks.
3. What about railway coverage?
4. Section 10.18 is concerned with the use-it-or-loose-it concept and notes the possible impact of the European Electronic Communications Code.

This concept applies particularly to remote communities where conventional mobile coverage solutions are uneconomic to provide. Because the spectrum in such locations is licensed to the MNO's, it remains unavailable to other suppliers of more innovative solutions. The situation will continue until both spectrum and inbound only roaming from the MNO's to these third party providers are made available.

Regarding spectrum, there are several options to create third party access to this spectrum:-

- (a) Use-it-or-loose-it, an after the event approach that relies on the MNO's being content that the spectrum/location will never be occupied. It is a case by case process and likely to be contested.
- (b) It would be possible for maps to be created that show areas with no prospect of MNO coverage. These should be based not on a timeline i.e. we'll do it one day, but instead based on the cost of base station deployment versus the economic return from the area covered. It is the time it will take for the base station costs to be paid back that counts (which could remain negative due to ongoing opex, which is the fallacy of capital grants), but it's this figure that new entrants can make inroads into. A small highly focussed organisation using tier-two equipment can reduce the base station deployment and running costs to about one-tenth of the NMO costs.

So, why licence the MNO's in areas they will never cover? It simply sterilises the area and ensures that its recipients will never get mobile services. Anyone with a solution, including an MNO or a self-help scheme, can then apply to Ofcom for an appropriate licence in the un-licensed territory.

- (c) Dynamic spectrum allocation (DSA) is an approach where the NMO's get a national licence and remain the primary users, but on a case-by-case basis, someone else can

apply to Ofcom for local use of unoccupied spectrum. Such an approach has been advocated by the 5GFF Group. A three year tenure has been mentioned but in FMS's opinion is a one-size-its-all figure that satisfies no-one. Its not long enough to provide business security and too long for an MNO whose planning cycle is typically 12 to 24 months.

DSA implies that it comes and goes with timescales varying between minutes and years and it is these timescales that must remain flexible and appropriate to the requirement for the spectrum.

New entrants providing cost effective third party networks could solve the rural coverage impasse. Ofcom is making spectrum available, but unless the customer receives a seamless service with no additional complications e.g. second SIMcards, manual roaming etc, their service will remain second class. Seamless service can only be obtained through inbound roaming agreements from the MNO's to the new entrants, and in the CSA space, such agreements have consistently been resisted.

Section 10.22 refers to "...the possibility of looking to impose roaming conditions...", and this is a very welcome development.