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By email only
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Three's response to Ofcom's consultation on 'Coverage obligations in the 700MHz and 3.6-3.8GHz spectrum award: Ofcom's approach to verifying compliance'

1. Three welcomes the opportunity to respond to Ofcom's consultation on measuring compliance with its proposed coverage obligations, published 31 January 2019.

Summary

2. As we present in our response to Ofcom's 700MHz and 3.6-3.8GHz Award Consultation, the coverage obligations Ofcom is proposing to include in the forthcoming auction would not be a good use of taxpayer's money nor meet Ofcom's objectives for the auction.
3. Given this, Ofcom should not impose coverage obligations in the auction. Foregoing coverage obligations would allow the mobile industry to align on a Single Rural Network (SRN) which would lead to a vastly superior coverage improvement at a fraction of the cost to the taxpayer.
4. If Ofcom persists with the imposition of coverage obligations, it should impose a single 90% coverage obligation and attach a Rural Roaming obligation to it. This would also lead to a much more widespread coverage improvement than Ofcom's proposals, at half the cost to the taxpayer. Ofcom could include the same requirements on the Rural Roaming obligation (in relation to outdoor coverage for premises and new site builds) as it is proposing for its 2x90% coverage obligations.
5. Our response to this supplementary consultation on assessing compliance with Ofcom's proposed coverage obligations can be applied to the second-best option for improving 4G coverage: Rural Roaming and a single coverage obligation.
6. In imposing a coverage obligation with sub-requirements and assessing operators' compliance with it, Ofcom should:
 - (i) Allow compliance with Ofcom's proposed new sites requirement to be met by Three buying into, and upgrading to 4G, BT's 'Free Carrier' sites. This is because these sites, which are owned by BT, are fundamentally different to operators' own 3G sites.

- (ii) Allow roaming between operators to count towards compliance with Ofcom's proposed new sites requirement since it would help to focus coverage improvements in partial not spots (PNS), where consumers are most likely to benefit.
- (iii) Include the coverage provided by EAS sites to count towards compliance with Ofcom's proposed geographic coverage and access to EAS sites to count towards compliance with the new sites obligations. If these sites did not count towards compliance, as Ofcom proposes, there would be large swathes of both Scotland and Wales which some operators may be unable to cover.
- (iv) Use only operators' coverage prediction models in assessing compliance with its geographic coverage obligations since operators are best-placed to predict their own coverage.

Three buying in to and upgrading BT's 'Free Carrier' sites to 4G should count towards compliance with Ofcom's proposed new sites requirement

7. To comply with its proposed new sites requirement, Ofcom proposes that a site must be:

*'...a new site for the obligated operator i.e. in addition to the sites which comprise the electronic communications network which the licensee uses to provide mobile telecommunications services as at the date on which the licence containing the Coverage obligation is first issued'*¹

8. Ofcom also states that:

*'..whilst 4G rollout has continued at pace, there are significant numbers of existing sites that operators own but from which they do not currently provide 4G coverage. We are not minded to allow new 4G coverage being added on these existing sites to count towards this requirement [i.e. the new sites requirement] ...'*²

9. [<].

10. [<].

11. Ofcom's position, as set out in paragraph 7 and 8 above, indicates that it will not accept Three buying into and upgrading 'Free Carrier' sites to 4G as counting towards compliance with Ofcom's proposed new sites requirement.

12. We consider that this approach would unfairly penalise Three and would not reflect the fundamental differences between 'Free Carrier' sites and other 3G sites in operators' networks.

¹ Compliance Consultation, paragraph 2.47,

https://www.ofcom.org.uk/_data/assets/pdf_file/0022/135157/Consultation-Coverage-obligations-in-the-700-MHz-and-3.6-3.8-GHz-spectrum-award-Ofcoms-approach-to-verifying-compliance.pdf

² Compliance Consultation, paragraph 2.55.

13. Ofcom's reasoning for not allowing the upgrade of existing sites to count towards compliance with the new sites requirement is predicated on its assessment that these sites would be upgraded in due course anyway. This is counter to Ofcom's statement in its auction consultation where it considers that '*industry is likely to be reaching towards the upper bounds of the [4G] coverage that commercial investment driven by competition will deliver.*'³

14. [X].

[X]
15. [X].

Table 1: [X]

[X]

16. [X].

17. [X].

18. [X].

Roaming should count towards compliance with Ofcom's proposed new sites requirement as well as its proposed geographic coverage obligations

19. As we set out in our response to Ofcom's consultation on the award of the 700MHz and 3.6-3.8GHz band, we consider that the duplication of mobile networks in rural areas is inefficient. This inefficiency can be mitigated either through network-sharing or roaming.

20. We agree with Ofcom that compliance with the proposed geographic coverage obligations could be met through roaming.

21. We also agree that it is appropriate to allow infrastructure sharing to count towards compliance with its proposed new sites requirement as it will reduce this inefficiency and help to eliminate PNS.

22. Where agreements on network sharing do not occur, roaming in rural areas to expand coverage should be as widespread as possible to reduce inefficient network duplication. Therefore, Ofcom should allow the sites that an obligated provider roamed onto in rural areas to also count towards compliance with the new sites requirement.

³ Ofcom 700MHz Auction Consultation, paragraph 4.21,
https://www.ofcom.org.uk/_data/assets/pdf_file/0019/130726/Award-of-the-700-MHz-and-3.6-3.8-GHz-spectrum-bands.pdf

23. Ofcom's reasoning for not allowing roaming to count towards compliance with its new sites requirement is that:

*'there is a significant risk they would not deliver the benefits we envisage for consumers from these new sites (i.e. significant coverage improvements)'*⁴

24. We do not consider this to be the case. Consumers will receive the same coverage improvement from an operator roaming onto a site in an area where it currently has no coverage as it will when an operator builds a new site. In both cases, the operator will be able to provide an incremental service equivalent to the area that the site covers.

25. In fact, the coverage improvement from roaming onto existing infrastructure may benefit consumers more than an additional site built in rural areas. For example, the additional site might be built in a TNS where relatively few consumers live or travel through whereas, by definition, existing sites are in PNS. We would expect there to be greater traffic levels in PNS as this would have incentivised the incumbent mobile operator to have deployed there in the first place.

26. Ofcom also seems to dismiss allowing roaming to count towards compliance with the new sites requirement on the basis that '*...the actual consumers' experience would depend on the detail of the network handover arrangements that have been put in place.*'⁵

27. Ofcom also considers consumer experience in relation to the geographic coverage requirements, where it proposes that roaming could only be used to comply with its geographic coverage obligations if it is satisfied that it '*provides a meaningful good quality service and seamless transition as customers move from the operator's network to the roaming network and vice versa*'⁶. It would be straightforward to apply the same assessment to the new sites requirement.

Ofcom should use operators' models in assessing compliance with the geographic coverage obligations

28. Ofcom is proposing to assess compliance with its proposed geographic coverage obligations using both operators' coverage prediction models and its own model. It proposes to calibrate the compliance threshold for Ofcom's model so that it reflects the difference between the operators' own coverage in 2020 and the requirements of the obligation.

29. Operators are best placed to understand their own coverage. We, therefore, agree that operators' own models should be used to determine the coverage increment that the winners of the coverage obligations would be required to provide in meeting compliance.

⁴ Compliance Consultation, paragraph 2.60

⁵ Compliance Consultation, paragraph 2.60

⁶ Compliance Consultation, paragraph 2.29

30. We understand that operators have slightly different coverage prediction models and that Ofcom may have concerns that operators whose models overpredict their coverage will not provide the coverage improvement that Ofcom desires. However, Ofcom validated our coverage prediction model when assessing compliance with its 90% voice coverage requirement in 2017 [X].

31. Ofcom is proposing that the incremental coverage improvement determined by operators' coverage models should be used to calibrate the coverage improvement required in its own model. We consider there to be two key problems with this:

- (i) Firstly, as Ofcom identifies, there could be a difference in coverage prediction between operators' models and its own. In this case, the models may be sufficiently different that an uplift in coverage of x% in an operator's model may not result in a corresponding x% uplift in Ofcom's model⁷. Therefore, Ofcom's proposed approach could lead to a situation where an obligated operator considers that it has met Ofcom's geographic coverage obligations based on the results of its own model but Ofcom's model indicates non-compliance.
- (ii) Secondly, although we have not had an opportunity to review Ofcom's coverage model in detail⁸, we consider that operators will be in a better position to make accurate coverage predictions than Ofcom at the time of compliance. Even if Ofcom's coverage model provides accurate predictions at the time of the auction, operators will continue to invest in tuning their propagation models, upgrading tools and post-processing capabilities to improve our coverage prediction models over time. Ofcom's closed model does not have this functionality and, therefore, is unlikely to provide an accurate prediction of operators' coverage in 2024.

32. Ultimately, operators are accountable for their own coverage. Therefore, Ofcom should assess compliance with its proposed coverage obligations against operators' own models. Ofcom can then assess the validity of operators' models with drive testing as it did in 2017 when assessing compliance with the 90% voice coverage obligation.

Ofcom should include the coverage provided by EAS sites in contributing towards compliance with its geographic and new sites obligations

33. Ofcom considers that the coverage provided by accessing publicly-funded EAS sites should not be included for the purposes of measuring compliance with its proposed geographic coverage obligations. Its reasoning for this is:

- (i) There is significant uncertainty around how and when EAS sites would be made available to operators; and

⁷ Ofcom's model does not provide any visual output, just a predicted coverage percentage. Therefore, in cases where the coverage predicted by its model and the operators' is different, it will be impossible to map where the differences occur.

⁸ [X].

- (ii) These sites are generally located relatively remotely so would not offer the same benefits as sites located elsewhere.

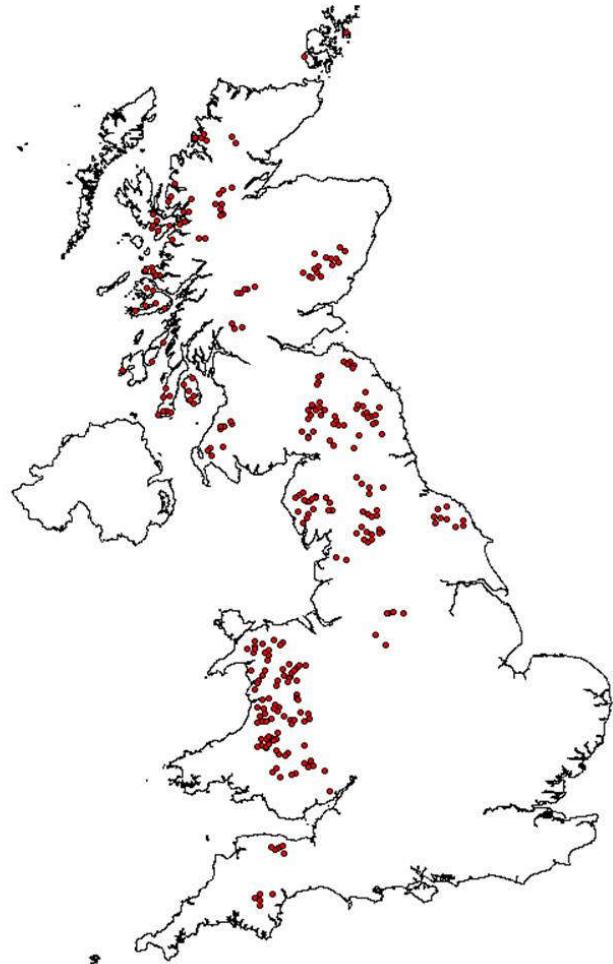
There is no uncertainty about how and when EAS sites will be made available to operators

34. Our understanding is that the specification of EAS sites requires that they are built to enable sharing between operators and we have received communications from the Home Office to determine whether we would be willing to share these sites. We, therefore, expect that it would be relatively straightforward to gain access to these sites if we were to use them to comply with Ofcom's proposed coverage obligation.

The remote location of EAS sites should not preclude them from counting towards compliance with Ofcom's proposed coverage obligations

- 35. Consumers do not just require access to mobile services near their home or workplace. EAS sites are located in National Parks, National Trust locations and World Heritage sites. Consumers travelling through these areas will also benefit from gaining access to mobile services.
- 36. Once operators have met Ofcom's proposed premises requirement, ensuring additional benefits for consumers near their homes or places of work, it is reasonable that they should meet the geographic coverage obligation by providing coverage in other areas where consumers might benefit, such as areas covered by EAS sites.
- 37. Both Wales and Scotland have a larger proportion of rural areas than the rest of the UK. By proposing to impose onerous geographic coverage requirements in these nations, Ofcom appears to recognise that expanding coverage outside of areas where the majority of consumers live and work will benefit consumers. Figure 1 illustrates the distribution of EAS sites across the UK. It is evident that these sites are focused in Scotland and Wales.

Figure 1: Location of EAS sites



38. [X].

39. [X] the building of new sites in areas covered by the EAS would lead to the inefficient duplication of sites in areas which the [X] has described as 'challenging in the extreme'⁹ to provide coverage to. However, these are areas where we may be unlikely to receive planning permission to construct a further mast. In that case, we would be left with large swathes of Scotland and Wales where we could not improve our geographic coverage to meet Ofcom's requirements.

40. [X].

Accessing EAS sites should also count towards compliance with the new sites requirement

41. [X].

⁹ [X].

We agree with Ofcom's proposed method of assessing compliance with its proposed premises requirement

42. We consider that Ofcom's proposal to assess compliance with its proposed premises requirement is reasonable.
43. In particular, we agree with Ofcom that operators' own coverage predictions should be used to assess the level of coverage at both the time of the auction and the time of compliance. It should be a straightforward task for Ofcom to overlay a premises database on these predictions.