



**BBC response to Ofcom's consultation:
*Revisions to Digital Radio technical Codes***

18 March 2019

Executive Summary

1. The BBC welcomes the opportunity to respond to Ofcom's consultation on "Revisions to Digital Radio Technical Codes", published on 4th February 2019.
2. The BBC supports Ofcom's aim to make the process of assessing new transmitters more flexible and timely, but any new build out of sites must continue to ensure protection of existing networks.
3. In that context we have some concerns on specific proposals within the draft code and guidance. These relate principally to:
 - The use of a non-critical spectrum mask; this will require further technical work and guarantees of maintained adjacent channel protection levels within existing licensed areas.
 - The proposed re-use of SId codes contrary to the DAB standard. The BBC would like to engage with Ofcom if such a requirement should appear essential.
 - Unnecessary and unexplained restrictions on DAB+ protection levels.
4. We set out below in detail where we believe more consideration/evidence is required or where we believe there is risk of deviation from the main aim and purpose of the code.
5. We look forward to engaging constructively with Ofcom as part of this ongoing consultation process.

Response to questions

Q1) Do you agree with our proposed changes to the ACI/blocking procedures?

6. We support the proposal of defined timescales for responding to potential ACI impacts for new DAB transmitter sites and the introduction of site selection guidance
7. We also support liaising with other multiplex operators for new proposals but are concerned that the BBC has not been included in the list of other multiplex operators. As the BBC holds a UK wide channel allocation any correspondence on new site proposals should be sent to:
Distribution.Broadcast.Coordination@bbc.co.uk
8. We believe a complete list of multiplex operators and contact details should be maintained and made easily available by Ofcom.

9. We are concerned by the text in Section 3.31 of the Technical Policy Guidance for DAB Multiplex Licensees, which suggests that new transmitter details will be added to the relevant licences irrespective of Ofcom's final decision. We believe the correct text should be along the lines of "Following Ofcom's final decision, if the transmitter proposal is approved, details will be added to the relevant licences...".

Q2) Do you have any comments on the adoption of the new ETSI mask characteristic and on the potential use of the non-critical spectrum mask?

10. We support adoption of the new ETSI mask.
11. Protection ratios for Adjacent Channel Interference (ACI) strongly depend upon the spectrum of the interfering signal. Most understanding of ACI to date is based on an interfering transmitter that conforms to the critical spectrum mask. The few tests that have been carried out with a non-critical spectrum mask demonstrate the difference between the spectrum masks in adjacent channels is directly translated to the adjacent channel performance in the receiver. This is evident in an IRT test report recently shared with Ofcom.
12. Adoption of the non-critical mask for co-sited transmissions would be possible providing any spectral overlap with other services provides the correct adjacent channel protection ratio once ERP, mask filtering and antenna pattern are all taken into consideration.
13. In the licensed areas of existing multiplexes, consideration should be given to the expansion plans drawn up as part of the Digital Radio Action Plan¹. Any new proposals within the first and second adjacent channel of any channel currently allocated must use the critical mask filter. Consideration should also be given to maintaining the protection of additional channel allocations within the Regional Radio Conference (Geneva) 2006 plan, as in the event of any future radio switchover it is essential to retain the necessary spectrum to allow for an effective and efficient broadcast radio platform.
14. The BBC notes that Ofcom intends to perform further analysis on the impact of using the non-critical mask and we are keen to participate in this work through the Digital Radio Planning Group (DRPG).
15. It would be appropriate to have access to a maintained list of contact details for existing multiplex operators that could be shared with potential new operators. We will seek to work with other multiplex operators and Ofcom to offer appropriate

¹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/270375/Digital_Radio_Action_Plan_v10_5_.pdf

advice on the information required to allow any new transmitter proposals to be assessed.

16. Licensees are accountable to Ofcom for the compliance of their transmissions and broadcasters are responsible for the experience that listeners have of their services. Broadcasters ensure that their chosen transmission providers have the relevant skills, experience and processes in place to operate their transmissions in a manner that meets audience and regulatory expectations. Where ACI cannot be mitigated other than by use of a 'filler', reasonable costs should be met for existing licensees who have to establish and managing such a filler.
17. Regarding the potential impact on PMSE, access to sufficient quality spectrum is critical to the PMSE sector and must be safeguarded.
18. The BBC relies upon a number of VHF frequency assignments for wireless microphones and audio links across the entire UK and there are no current alternative spectrum options that give the same capabilities. They fall within the three Band III ranges set out in the consultation document and include both shared and exclusive frequency assignments.
19. The proposed changes to the DAB transmitter spectrum masks do not appear to significantly add to the unwanted levels for current BBC assignments but that will not necessarily be the case for all PMSE users and in the future. The BBC therefore wishes to engage with Ofcom to review the PMSE allocations in Band III which have not been reviewed since the end of Band III television in the UK. When the quantity of other PMSE spectrum is reducing, notably as a result of 700MHz Clearance, the utility of remaining allocations, particularly in Band III, needs to be maximised to the benefit of the entire PMSE sector.

Q3) Do you agree with our proposed changes on DAB+ audio encoding?

20. Use of DAB+ should be a decision for individual broadcasters. Broadcasters are also best-placed to decide on the error protection and bit rate of their services, based on audience expectations and commercial realities. It is therefore not clear why DAB+ has been limited to protection level 3A only, especially when DAB protection levels UEP-1, 2 and 3 are permitted.
21. By allowing the most robust DAB+ protection levels EEP-1A and EEP-2A there is potential, in some circumstances, to reduce adjacent channel interference by trading capacity for lower operating ERP whilst maintaining the same planned coverage area.

Q4) Do you agree with our proposed revisions to the Digital Radio Technical Code outlined in Section 6 of this document? Do you have any views on alternative models for dealing with the administration of SId and TII codes?

22. We are concerned at the suggestion that SId re-use within the UK could be considered. The DAB standard, ETSI EN 300 401, states in clause 6.3.0:

"Each service shall be identified by a Service Identifier (SId) which, when used in conjunction with an Extended Country Code (ECC), is unique worldwide."

We believe that instability in receiver behaviour, especially in relation to in-vehicle receivers, would be likely if this principle of DAB system architecture is breached. We suggest that the allowance for SId codes for national services (with a continuing link to RDS PI codes) is protected to allow for any future increase in the number of these services.

23. We believe that the re-use of TII codes, although undesirable, could be acceptable if sufficiently geographically separated and limited to low power transmissions.

24. On the question of alternative models of code administration we have no strong view, but in any event Ofcom must retain overall responsibility and hence it seems sensible for Ofcom to continue administering code allocations as part of their technical licensing processes.

25. We support the removal of text referring to mode II as this mode is no longer included within the DAB specification, ETSI EN 300 401.

Q5) Do you agree with our proposed revisions to the Technical Policy Guidance for DAB Multiplex Licensees document outlined in Section 7 of this document?

26. As the policy for future small scale DAB services has yet to be determined, it would seem prudent to make the changes to the Technical Policy Guidance for DAB Multiplex Licensees document as outlined in section 7, once these have been defined.

ENDS.