



## **Response to Ofcom Consultation: Digital Dividend Review: clearing the 800 MHz band.**

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We would like to thank Ofcom for the opportunity to offer our views on proposals to clear further channels within the 800 MHz band. As the current PMSE band manager we are uniquely placed to identify a number of issues that the proposals raise from both a PMSE industry and licensing perspective.

During the consultation period we have received a number of representations from PMSE customers and have therefore tried to incorporate some of their concerns within this response.

This response focuses solely on what we believe to be the main issues that concern the PMSE industry and licensing regime. Therefore we have not attempted to answer questions regarding the proposal's impact on DTT or citizens and consumers.

### **1. Summary**

On the whole we agree with Ofcom's proposals to clear the 800 MHz band. Whilst moving PMSE users out of channel 69 will create a considerable amount of disruption and financial inconvenience to our licensees we recognise and accept the strong arguments put forward to facilitate European harmonisation of the Digital Dividend.

We also agree that channel 38 is the best available alternative to channel 69 despite it not being available UK-wide until 2012. Our response provides some ideas regarding how this issue may be addressed prior to 2012 in order to facilitate a gradual move out of 69.

Ofcom's economic analysis and decision to include channel 38 within the PMSE Band Manager award makes sense and as such is supported by JFMG. However, we would suggest Ofcom consider providing PMSE users with a longer period of protection for channel 38 compared to other PMSE spectrum (2018), given that full access to 38 will not be facilitated until 2012.

Although we would ideally like to see channel 36 remain available until the end of 2012, we accept Ofcom's decision to provide licensee's with one year's notice to vacate the band instead. We fully support Ofcom's decision to allow continued PMSE access to the remaining 'cleared' spectrum until the end of 2012.

On the whole we agree with Ofcom's approach to determining eligibility for funding the move from channel 69. However, feedback from customers has revealed that there are considerable concerns regarding the decision to implement a cut-off date for eligibility of 2 February 2009 (publication of this consultation document). We therefore suggest that Ofcom carefully consider whether this date is appropriate given the concerns communicated.

Finally we agree that 3 years should be sufficient for PMSE users to move out of channel 69, although we do have some concerns that manufacturers may find it difficult to furnish the market with sufficient channel 38 equipment within this timescale.

## 2. Consultation Questions

**Question 1):** Do you agree that clearing DTT from channels 61 and 62 and PMSE from channel 69 to align the upper band of cleared spectrum in the UK with the emerging digital dividend in other European countries is likely to further the interests of citizens and consumers to the greatest extent?

**Question 2):** Do you agree that the proposed DTT migration criteria are proportionate and appropriate? If not, please explain why and clearly identify any other criteria you believe should be adopted and why.

**Question 3):** Do you have views on the options identified and our assessment of them? Do you believe there are other, superior options, and, if so, why? Do you agree that the hybrid option is most consistent with the DTT migration criteria?

**Question 4):** Do you have views on the implementation-timing options identified and our assessment of them? Do you agree that DSO integrated implementation is most consistent with the DTT migration criteria? If not, why not?

**Question 5):** Do you agree that a programme control and -governance arrangement such as that outlined above is appropriate?

**Question 6):** Do you agree that the four cost categories adequately capture the costs associated with clearing DTT from channels 61 and 62? Are there any costs that do not appear to have been accounted for in any of these categories?

**Question 7):** Do you agree that our cost profile is a reasonable basis for planning the capital expenditure for clearing DTT from channels 61 and 62?

**Question 8):** Do you agree that these are the most appropriate criteria to assess which spectrum is the best alternative to channel 69 for PMSE?

We agree with the criteria that Ofcom have used to assess the best alternative to channel 69 for PMSE. Channels 69's replacement should replicate its current technical, coverage and economic characteristics as closely as possible. It should focus specifically on UK-wide availability, juxtaposition to other PMSE spectrum and availability of equipment, not just in the UK but also throughout Europe and the US to allow for greater economies of scale.

Any replacement should also be able to easily accommodate the current light-licensing regime whereby 14 set channels are available UK-wide on an uncoordinated basis. We believe that the selection of such criteria should result in identification of the best available alternative for channel 69.

**Question 9):** Do you agree with our technical and coverage analysis of the possible alternatives to channel 69 for PMSE?

We broadly agree with Ofcom's technical and coverage analysis of the possible alternatives to channel 69 for PMSE. However we do not agree with the conclusion that access to 'Interleaved spectrum only' is a realistic alternative.

### ***'Interleaved' spectrum only***

PMSE users will already have access to 'digital interleaved' spectrum after switchover and so the provision of it as a replacement for channel 69 would not be recognised. Instead it would be seen as another reduction of available channels for PMSE use.

In addition we believe that 'interleaved' spectrum does not fit the appropriate technical and coverage criteria that Ofcom set to determine the best alternative spectrum for channel 69. The utilisation of multiple channels within 'Interleaved' spectrum may provide UK-wide coverage, however this would be a wholly impractical task for many PMSE users who would need to retune their equipment regularly and purchase multiple sets to achieve the same utility as channel 69. Channel 69 is utilised by many non-professional users and this would certainly make the purchase of a wireless microphone licence a more daunting task.

In addition, it would not be practical for many uncoordinated users to work around Digital Television and would certainly increase the risk of interference to the primary user of the spectrum. Self-coordination would not be possible and coordination of multiple sites would not be practical for many users, including news organisations and touring shows. Another example would be during film shoots where locations can change at short notice allowing a freelancer little time to coordinate and adjust their equipment accordingly.

We believe all of these issues mean that 'interleaved' spectrum does not represent a like-for-like replacement for channel 69 and as such should be eliminated from any further discussion.

### ***Channel 38***

We agree with Ofcom's analysis of the criteria in relation to channel 38. It is already used by PMSE in areas where radioastronomy is not protected and the band is due to become available UK-wide as soon as they vacate in 2012. At this point it will become the closest spectrum in characteristics to channel 69. Ofcom's proposal to use channels 39 and 40 for DTT will also replicate the current proximity to channels 67 and 68 providing further utilisation of equipment and increased spectrum availability for those who have larger frequency requirements.

There is also the possibility that 'cleared' channel 37 could be purchased at auction by DTT and that this again would create the possibility of further 'interleaved' spectrum that could be utilised by PMSE. However we also acknowledge Ofcom's point that there is no guarantee about what use will be made of the adjacent 'cleared' spectrum, and that the eventual use could impact the utilisation of channel 38 and make a guard band within it necessary. This is not dissimilar to the current situation within channel 69 where we avoid assigning close to the lower channel edge to prevent interference to and from TV transmissions in channel 68. The eventual use of channel 37 would determine the extent of, or necessity for a guard band. If the successful use turned out to be DTT then a guard band would only be necessary within and close to the coverage areas of channel 37 services allowing the full bandwidth to remain available elsewhere. However, if the successful use was a widespread high density mobile network then a UK-wide guard band would be necessary within channel 38.

### ***FDD duplex split***

We agree that the FDD duplex split is not an appropriate alternative for channel 69 at this stage. With a technology neutral award there is no absolute guarantee that the split will be created as it is reliant on assumptions relating to the technologies adopted after the auction. Any decision regarding its utilisation would have to wait until the conclusion of the 'cleared' auction and manufacturers and users alike could not wait that long for certainty.

However, the creation of a split after the auction could work as useful additional spectrum for programme makers and so should be considered in the long term as its harmonised nature would be attractive to manufacturers. It could be utilised as harmonised IEM spectrum as it is likely that the development of digital technologies would be better able to cope with any adjacency issues in the future.

**Channel 70**

Channel 70 neither provides sufficient capacity or protection from short-range devices sharing the band. We therefore agree with Ofcom's assessment.

**872 – 876/917 – 921 MHz**

We agree that the 872 – 876/917 – 921 MHz band is not a suitable alternative for channel 69 given its frequency separation from other PMSE spectrum and the likely interference issues identified by Ofcom.

**1785 – 1800 MHz**

We agree that 1785 – 1800 MHz is not a suitable alternative to channel 69 given its frequency separation from other PMSE spectrum and the fact that it has been available for digital microphones for some time with no utilisation. In addition it is not available UK-wide as the allocation no longer includes Northern Ireland.

In conclusion, based on Ofcom's criteria we believe that channel 38 is the only viable alternative to channel 69. There are a number of issues surrounding the implementation of channel 38 which will need to be given serious consideration and which will be detailed later in this response.

**Question 10): Do you agree with our economic assessment of the realistic alternatives to channel 69 for PMSE?**

We believe the inclusion of 'interleaved' spectrum within Ofcom's economic assessment is unnecessary given our opinion that it does not adhere to the necessary technical and coverage criteria. Thus the analysis itself becomes irrelevant.

However we do agree with Ofcom's assessment of channel 38 and agree that the opportunity cost and the likely Band Manager fee of £122,000 would not be unreasonable given the intention to phase in fee increases over a period of years. Whilst fees would increase because the Band Manager would need them to cover the licence and operational costs, phasing would ensure that users could adjust to this level over time. This is in stark contrast to the estimated opportunity cost of £2.8 million per year for channel 69, which could not be achieved in the short to mid term, if ever.

**Question 11): Do you agree that channel 38 is the best alternative to channel 69 for PMSE?**

We agree that channel 38 is the best alternative to channel 69 for PMSE. We believe that none of the other frequency bands discussed within the consultation fully meet the criteria required to be a feasible replacement for channel 69. Whilst 38 is not yet available everywhere in the UK it will be by the time PMSE need to vacate channel 69.

In our response to Ofcom's 'Band Manager Award' consultation we highlighted the importance of retaining channel 38 for PMSE use past 2012 despite there being limited existing usage. Analysis work found that channel 38 was by far the best individual channel as far as availability was concerned, as it is currently available for indoor use in just over 80% of our test locations.

We also found that if paired with 41, channel 38 in its current state would provide access to 99% of indoor locations and 98% of outdoor locations. UK-wide availability and the proposal to make channels 39 and 40 interleaved would further improve the utility of kit that tuned over these ranges and appear to replicate the current arrangement and utility of channels 67 - 69.

Whilst channel 38 is certainly the preferred option in replacing channel 69 there are many issues regarding the logistics of migrating to a channel that is not yet available throughout the entire UK. This issue is discussed further in our response to question 15.

In addition, we note that guarantees of continued access to channel 38 are dependent on the continued use of the channel by radioastronomy in the Netherlands. We would ask Ofcom to provide some comfort to users regarding access to the channel should Netherlands radioastronomy decide to vacate it in the future.

**Question 12):** *Do you agree that we should award channel 38 to the band manager on the same terms as would have applied to channel 69?*

We support the inclusion of channel 38 within the band manager award as we advocated this approach in our response to Ofcom's last consultation on the subject.

However, given the disruption caused to users by the move from channel 69 and the fact that full UK availability will not be achieved until 2012, we would suggest a longer protection period for PMSE use past the current 2018 date.

In addition, if the band manager is required to maintain the same access regime as is currently in place for channel 69, then it is likely that this will have to be inserted within their licence terms and conditions. The previous consultation did not give any indication that licence products would be required to carry-over into the commercial model, so this needs to be made implicit within future statements.

**Question 13):** *Do you agree with our proposal to maintain PMSE access to channel 36 on 12 months' notice to cease and to the rest of the cleared spectrum (channels 31-35, 37 and 61-69) until DSO is completed in the UK in late 2012?*

In our response to earlier DDR consultations we suggested PMSE use of channels 36, 67 and 68 be permitted until at least the end of 2012. We therefore wholeheartedly support Ofcom's decision to allow continued access to all 'cleared' spectrum until late 2012. Whilst the proposal does not extend to channel 36, we believe that the extension of overall access timescales presents an acceptable compromise for most users. However, it should be noted that it would be easier for users and the band manager to have just one timescale within which to vacate 'cleared' spectrum.

In addition, if it were not for this decision channel 36 could be considered as part of an interim plan to smooth the migration of users out of channel 69. We discuss interim moves within question 15 and will continue to engage with Ofcom to discover the best way forward.

Whilst we accept Ofcom's decision to provide licensees with one year's notice to cease using the band, we would like to see provisions made within the award of 36 to allow continued PMSE access until the owner's infrastructure is ready to roll-out. This would facilitate an orderly exodus from the band and ensure that it does not remain unused for any significant period. Allowing the band manager to work with the new spectrum owner to facilitate continued PMSE access will maximise spectrum efficiency and provide channel 36 users with a longer timescale to vacate.

**Question 14):** *Do you agree with our approach to determining eligibility for, and our assessment of the level of, funding to move PMSE from channel 69?*

On the whole we agree with Ofcom's approach to determining the eligibility of users for funding to move from channel 69. However, there are a number of issues regarding the eligibility criteria and in particular cut-off dates which we think Ofcom may wish to think about more carefully whilst progressing the funding scheme.



We completely agree with the assertion that claimants should be in possession of a valid channel 69 licence. We believe that this approach rewards those who have taken the time and expense to be legal and emphasises the benefits that being licensed provides. Those being recognised rights to spectrum where without there are none.

We also agree with the lifecycle of equipment put forward and the need for eligible equipment to be unable to tune to channel 38.

Whilst we agree there needs to be an eligibility cut-off date for both the purchase of a channel 69 licence and relevant equipment, we are unsure whether this consultation's publication date is the correct one.

We recognise the thinking behind using the publication date as it ensures the correct and deserving parties receive the full benefit. Setting a cut-off past this date could have resulted in an influx of licence applications into our offices from parties who had up until now been operating illegally in order to qualify for funding. This would be unfair on all those who had always been licensed. In addition, new equipment could also have been purchased in order to take advantage of the funding. If bought now, the claimant could receive up to 7 tenths of the equipment's value from the scheme. It is clear that the cut-off date is designed to deter such behaviour, although some might argue that it would be a small price to pay to ensure an increase in legal use.

We have had a number of calls from customers who believe that there are good reasons why they should be eligible for funding even though they have bought equipment and/or a licence after the 2 February 2009 cut-off. This is primarily because there will be no guaranteed alternative to channel 69 until after this consultation period is closed and a decision/statement is made. Therefore if users need to purchase equipment between the 2 February and the date of the statement, their only option is to buy equipment in channel 69 or not at all. There is equipment available in channel 38 but in limited supply. Manufacturers are unlikely to produce equipment and similarly users unlikely to purchase it for channel 38 until a public decision has been made.

There will also be a number of genuine new entrants into the market who will be disadvantaged from the cut-off date but who have little choice but to purchase channel 69 equipment. It could also deter these new entrants from purchasing a licence as they will be afforded no benefit from its possession.

Further concerns regarding the eligibility date have also be conveyed at Ofcom stakeholder meetings, where the fact that channel 38 will not be available everywhere in the UK until 2012 has also been cited as a reason for users having to purchase new channel 69 equipment between now and 2012.

Whilst we recognise that none of these issues are easy to address we would suggest that Ofcom reconsider the original cut-off date. There will always be deserving parties that miss out as a result of setting any cut-off. However setting it in line with the publication of the final statement on channel 69 may well be an easier decision to accept. Alternatively, Ofcom could retain the current date but ask ineligible licensees to appeal to Ofcom if they believe they have a bone fide case for funding. Their situation could then be evaluated in isolation.

With regard to Ofcom's estimate of the level of funding required to facilitate the move out of channel 69, we are not in any position to state whether the figures quoted are correct or not. It is impossible to ascertain the exact number of units that would need to be replaced as a result of the move because of the way in which PMSE licences are issued. JFMG issue licences for frequencies only, therefore one licensed frequency could be used legitimately by any number of pieces of equipment owned by the licensee. It would therefore seem sensible to take into account both Sagentia and PMSE stakeholders' estimates of equipment volume to determine the scale of funding required.

**Question 15): Do you agree that three years is long enough for PMSE to move from channel 69?**

3 years is likely to be long enough for PMSE users to move from channel 69 given that funding will be provided to aid the migration. Whilst the full cost of replacing equipment will not be covered, it will none the less help licensees purchase new equipment and make this timescale more feasible than if funding was not provided.

Whilst three years would appear to be sufficient for users to move from channel 69, we are not entirely sure whether it will be sufficient for manufacturers to produce enough equipment for channel 38. There already exists some channel 38 kit in the market, but it is currently of limited supply. Manufacturers of equipment that do not produce equipment in channel 38 have indicated that lead time is required to set-up a new channel 38 product; and there may not be enough capacity for sufficient numbers of niche kit to be manufactured and swapped within the timescale.

One way of reducing the required numbers of channel 38 equipment could be to advise fixed site users of channel 69 to migrate into different interleaved channels instead. Some of those licensed within channel 69 have no requirement for UK-wide coverage and only use one or two of the frequencies allocated. Their sole reason for opting for a channel 69 light-licence is that it appears to be a more cost affective option. Moving these users would therefore spread the burden over a larger range of equipment and reduce the amount of channel 38 kit required on the whole.

However, there is one obstacle that hinders the facilitation of this approach. The alternative interleaved spectrum that fixed site users could move into is yet to be confirmed. There is a lack of certainty regarding its detailed configuration making it difficult to facilitate a move out of 'light-licensed' channels. Users would first need to know which interleaved channels would be available in their area and then purchase the necessary equipment and licence. However this information is not likely to be fully available until Ofcom have completed international negotiations on the proposals within this consultation and the revised DTT network is known.

The uncertainty surrounding interleaved spectrum could then result in current fixed site users moving into channel 38 rather than moving into alternative interleaved spectrum. Fixed site users do not need the flexibility of UK-wide spectrum in channel 38. If they start using it in preference to interleaved spectrum it will limit the use of channel 38 that can be made by those with a genuine requirement for UK-wide frequencies in channel 38, such as news organisations and touring shows.

There are a number of other issues related to the move from channel 69 that should also be considered within the realms of this question, some of which are discussed below.

***Facilitating an early move***

We believe that it would be preferable for the move from channel 69 to begin as soon as is practicable. This would avoid a last minute rush out of 69 in 2012 and any corresponding difficulties with administering such a process. However, this will be difficult baring in mind the issues regarding equipment availability and the fact that channel 38 will not be available UK-wide until radioastronomy vacates the band in 2012. We would therefore support Ofcom investigating with radioastronomy the possibility of an early move out of the band. Some years ago we engaged with radio astronomers in relation to use in channel 38 and conversations indicated that use of sites were often intermittent and dependent on project spend. There could, therefore be some scope to negotiate an earlier release. An alternative could be to investigate whether there is any scope to relax some of the current restriction areas; facilitating greater utility of the channel for users in the meantime.

PMSE stakeholders have also suggested that another way of dealing with the channel 38 restrictions would be to facilitate an interim move to include other adjacent channels until such time as 38 is fully cleared. An equivalent number of spot frequencies (currently 14 channels in 69) could then be identified across the channels including 38 that manufacturers could programme into the equipment. This would replicate the current shared licensing arrangements within channel 69. Users could then switch their equipment to pre-defined frequencies outside of 38 if they were within an area where

radioastronomy restrictions applied. Once channel 38 became fully available this arrangement could cease and all shared frequencies would become those within channel 38 only.

This kind of arrangement would facilitate a gradual move out of channel 69, whilst still providing users with UK-wide access to spectrum.

We intend to look at this subject in more detail to identify whether there is a workable set of frequencies that can be suggested to manufacturers.

Another area that needs to be considered in order to encourage a gradual move from channel 69 is that of licensing. Decisions need to be made regarding whether Ofcom would allow users to transfer their existing licence over to channel 38 or its equivalent, mid-licence term, free of charge.

We could employ a similar system to when VHF frequencies were amended. Coordinated licensees were contacted and asked if they required a replacement frequency. If they did, we reissued their licence with both their current frequency and their new alternative free of charge. It may also be worth considering providing coordinated and fixed site users with an incentive to move to other interleaved frequencies instead.

With regard to 'light-licensees' within VHF; at renewal the licence schedules issued included both the existing 15 (VHF) shared frequencies and the newly identified alternatives, facilitating use of all of them until such time as the old were no longer available. This approach provided users with maximum flexibility during the transition and ensured that the administrative work required was manageable.

#### ***Frequency assignment***

Consideration also needs to be given to the affect a change of usage and influx of users may have on existing channel 38 PMSE licensees. It would therefore be prudent to identify what frequencies within channel 38 are currently being used by coordinated licensees in order to identify shared frequencies which would impact the fewest number.

It would also be preferable to identify the final set of channel 38 shared and coordinated frequencies as soon as possible so that this information could be published with Ofcom's final decision statement in the summer. The appropriate steps with regard to licence documentation and equipment manufacture could then be taken at the earliest stage possible. However, it will be necessary for the PMSE industry to take an active role in determining the final frequency plan. It is likely that there will be no single plan that provides a solution for everyone's differing requirements so a compromise will be necessary.

#### ***Unlicensed use***

There is undoubtedly a considerable amount of unlicensed use of channel 69 equipment, the users of which will not be identifiable. These users may very likely continue to use their equipment past the 2012 cut-off date and then suffer considerable interference from the new uses of the spectrum. They could then move to channel 38 and remain unlicensed, but is there a way of converting their channel 69 unlicensed use into licensed channel 38 use instead?

If these users had been licensed in the first place then they would have been eligible for funding to help them purchase new equipment. In addition, the level of funding may have been greater if they had been licensed because the amount of channel 69 equipment may have been underestimated because of a lack of detailed information regarding equipment in the market. It may be worth Ofcom undertaking a publicity campaign which would highlight these issues to demonstrate why users could benefit from becoming licensed in the future.

In conclusion, we have highlighted a number of areas that need to be considered in order to facilitate a smooth move out of channel 69. However, we believe that the three year timescale may be possible from a user perspective, as long as the necessary processes and decisions are put in place soon. Our only concern is whether manufacturers will be able to place the necessary replacement equipment into the market quickly enough and in sufficient numbers. We therefore look forward to hearing their views in response to this consultation.



**Question 16):** *Do you agree that with our analysis of the key impacts of our policy options? Are there any other key impacts we should assess?*