

1. The proposal to clear channel 69 of PMSE has led to a severe decline, and in some cases near-halt, in sales of channel 69 equipment; those businesses that depend on these sales are consequently under threat. Two important factors have contributed to this problem:
 - a. Under current proposals, anyone who buys/has bought channel 69 equipment subsequent to the publication of the 800 MHz consultation document will not be entitled to financial assistance¹. Therefore, those who would otherwise buy new equipment are reluctant to invest.
 - b. Suppliers of channel 69 equipment cannot offer alternative equipment (that does the same job) until replacement spectrum is both confirmed and made available on a UK-wide basis; Ofcom have not decided that channel 38 will be the replacement and it is not available on the same basis as channel 69.

The points raised here would affect me both individually and also my small business. I myself hold a current licence and have held licences in the past. My company however (fabsound.co.uk) hires out equipment to other users and is not ultimately responsible for holding a licence. We do however hold a licence for our Walkie Talkie Stock. HN

2. Users who need to buy new channel 69 equipment (i.e. that can be used and licensed UK-wide) have no other option but to invest in equipment that is not future-proofed. Again, this is because (a) viable alternative spectrum (and hence) and equipment are not available and (b) the date of publication of the 800 MHz consultation is the proposed cut-off point for entitlement to financial assistance.

I have recently been forced to buy some second hand equipment (Audio 2020 Radio mics) in order to keep my costs down. During the current 'Credit Crunch'/Recession you might think this a wise and cautious thing to do. However I can assure you most technicians prefer to buy new equipment. To have equipment from new means you are sure of it's history, you have a comprehensive warranty, and 'state of the art' equipment can be bought with confidence, knowing that you can pass on high-end quality to your clients.
HN

3. In order to address the problems raised in (1) and (2) above, Ofcom must:
 - a. Accept the principle that, in absence of confirmation and availability of replacement frequencies and equipment, users who need new equipment have no option but to invest in equipment that operates in currently-available frequencies.
 - b. Strongly encourage the Government to make provisions for those that have purchased and will need to purchase equipment before replacement options are confirmed and available. For example, the Government could indemnify those demonstrably necessary and reasonable investments but later devalued due to regulatory developments, spectrum availability issues or uncertainty.
 - c. Confirm, as soon as possible, that channel 38 will be awarded to PMSE/band manager
 - d. Make every effort to ensure that channel 38 is as widely available for PMSE use as possible, as soon as possible. This will involve significant engagement with incumbent radioastronomy users of channel 38.

With many technicians looking for second hand options in the current market, delaying a decision on where we will eventually 'live' might prove more costly to fix in the future. Also with such uncertainty heading towards 2012 and what will be the biggest technical event this country has ever staged,

¹ http://www.ofcom.gov.uk/consult/condocs/800mhz/800mhz_statement_060508.pdf

it seems to me bizarre that a good percentage of our industry are having to be regressive rather than gear up for such an event. HN

4. As the replacement for channel 69 must at least replicate its current benefits to PMSE, we agree with Ofcom that none of the following would be acceptable:
 - a. Interleaved spectrum (not UK-wide and no additional bandwidth)
 - b. Channel 70 (more isolated than channel 69 and no additional bandwidth)
 - c. FDD duplex split (no certainty that it will either exist or be useable for PMSE)
 - d. 1785-1805 MHz (isolation, lack of equipment availability, not UK-wide)
 - e. 870-876 MHz and 915-921 MHz (isolation, interference issues and high opportunity cost)
 5. If the migration of PMSE from channel 69 and the provision of replacement spectrum is considered in isolation from the wider impact of the digital dividend on PMSE spectrum access, then it would be reasonable to conclude that channel 38 is an adequate replacement. It will be available on a UK-wide basis by 2012, has a low opportunity-cost (and hence licence-fee attached to it) and lies in closer proximity to post-DSO (digital switchover) interleaved spectrum than channel 69 will.
 6. However, the spectrum provided to PMSE/band manager must take into account the wider impact of the digital dividend on PMSE spectrum access. As BEIRG has demonstrated in its responses to the cleared and geographic consultations, Ofcom's currently-available white space maps show that there will be insufficient spectrum available in order to operate necessary quantities of PMSE equipment for large-scale musical productions to be staged at certain prime venues across the UK², including at theatres in Edinburgh, Bradford, Southend, Woking, Swansea, Nottingham, Stoke, Guildford and Tunbridge Wells³. In addition, and as our models derived from Ofcom's data show, equipment costs for touring theatre will increase by a minimum of 100% post-DSO⁴ due to the increased fragmentation of available spectrum.
 7. Whilst Ofcom have agreed to update the white space maps, they will not be available for some time due to the clearance of channels 61-69. Until definitive white space maps are publicly available, it is impossible to determine whether the PMSE spectrum allocation is demonstrably interference-free and sufficient in terms of quality, bandwidth and continuity to meet the PMSE sector's needs without imposing undue financial costs. Ofcom must accept that they must retain the ability to address any shortfalls in PMSE spectrum should they arise. In order to do so (and hence avoid the risk that the PMSE allocation will not be sufficient), Ofcom must do one of the following:
 - a. Award two additional cleared channels to the band manager in addition to channel 38. In this regard, BEIRG submitted a document to Ofcom in December 2008 which stated '*We believe that channel 38 along with cleared channels 39 and 40 would offer the best replacement for channel 69. Alternatively, if channels 61 and 62 are cleared of DTT and DTT broadcasting has to spill over into channels 39 and 40, then channel 38 and the cleared channel 37, along with the interleaved spectrum in channels 39 and 40, would offer the best replacement for channel 69.*' Ofcom must explore this option as a method of prioritising PMSE, rather than PMSE being a consequence of other developments.
 - b. If the 600 MHz auctions are to take place before definitive white space maps are available, hold back the two additional cleared channels from sale until it is known for certain which interleaved frequencies will be available for PMSE. The channels could be awarded to the band manager if the interleaved allocation is insufficient, or auctioned if not. This option would both mitigate the risk to PMSE and ensure efficient spectrum allocation.
 - c. Do not release the lower cleared channels (i.e. do not hold the 600 MHz auctions) until definitive white space maps have been published and the PMSE sector has had sufficient time to ascertain the implications. Further to this, Ofcom will be able to address any shortfalls in spectrum availability or continuity by awarding additional spectrum to the band manager.
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8. We welcome Ofcom's commitment to ensure that 'existing authorised and planned authorised users of channels 61, 62 and 69 do not bear extra costs that must reasonably be incurred to clear the spectrum'⁵. In line with this, finance must be available when the costs to the PMSE sector arise in order to facilitate an orderly and efficient migration. The best solution would be an early Government commitment to set-aside funds and ensure that an effective distribution mechanism is established.

May I just mention here basic costs to restart a business for an individual and a very small business? With current costs at around £3000 a channel. My individual minimum outlay for a new kit if it were to be on Channel 38 would be in the region of £16 - £18,000. My company (fabsound.co.uk) might expect a similar amount to be spent. If my current equipment were to be completely redundant I have to say I would feel more than a little aggrieved with that situation. HN

9. The eligibility criteria for entitlement to financial assistance in order to replace or modify valuable equipment that will be rendered redundant as a result of Ofcom's decisions must be fair and reasonable. To ensure this, they must take into account anomalies in the licensing scheme and the earning capacity that wireless microphones retain if they still function, irrespective of age. In this regard, we believe that Ofcom's proposed eligibility criteria are deficient and would unfairly 'miss out' those who should be entitled to financial assistance.
10. For the purpose of assessing claims, Ofcom have put together four 'working assumptions' for possible criteria to be satisfied for initial consideration as to entitlement. These are listed in italics below and critiqued individually.
- a. Ofcom '*would only consider assistance for equipment purchased before publication of this (800 MHz) consultation document*'.
 - i. Notice of eviction is irrelevant if replacement frequencies and equipment capable of operating in those frequencies are not provided at that point of notice. However, as shows must continue, demand for equipment still exists. If the publication of the 800 MHz document is the cut-off date for funding eligibility then those users who need to buy new kit are forced to invest in equipment which will be rendered redundant without any hope of recompense. This is not fair because they have no alternative. Therefore, Ofcom must consider assistance for all PMSE equipment purchased to operate in currently-available frequencies up to the point at which viable replacement options are available.
 - b. '*claimants would need to hold a licence to use channel 69 valid before publication of this document*'. While we understand that Ofcom do not want to reward unauthorised usage, the eligibility criteria must take the following into account:
 - i. Ofcom need to factor-in possible delays between the purchase of equipment, and hence date of ownership and the use of equipment (and hence requirement to licence). Just because an owner of a wireless microphone that operates in channel 69 did not hold a channel 69 licence prior to the publication of the 800 MHz consultation document does not mean that they would not have bought one at the point of use; hence they should not be precluded from receiving financial assistance.
 - ii. Many users of wireless microphones and IEMs own equipment that can be deployed in channel 69, but generally do not use this channel (and hence do not licence this channel) because of congestion issues. Under Ofcom's suggested criteria,
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equipment that operates in channels 65-69 but only licensed for use in channels below channel 69, would not be taken into consideration. This would not be fair because (a) it is equipment that operates in channel 69 and it is used on a licensed basis and (b) Ofcom have provided no alternative frequencies to the upper-cleared band which can be used by the PMSE sector in future. Therefore, all equipment that operates in frequencies that will not be available for use after DSO should be taken into account, particularly if it operates in channel 69.

- iii. A single channel 69 licence covers any number of systems.
 - iv. It is the duty of the end-user of the equipment to buy the licence, not the owner of the equipment. Therefore, Ofcom's eligibility criteria must take into account the fact that rental companies or other lenders might own equipment that they have never used themselves and therefore never needed to purchase a licence to operate; these owners must be provided with financial assistance to re-equip. It would not be fair to penalise them for not being the end-users of their equipment that will be rendered redundant after DSO.
- c. *'the equipment would need to be capable of tuning to channel 69 but not channel 38*
- i. Whilst we accept that this criterion can apply in respect of channel 69 equipment, Ofcom must still ensure that all equipment that will be rendered redundant or require modification as a result of the clearance of PMSE frequencies is provided for.
- d. *'the full lifecycle of equipment from the date of its original purchase is 10 years'*. Further to this, Ofcom have stated that the cost of replacing equipment should be *'based on the residual equivalent value of existing equipment and not the cost of buying new equipment'*⁶.
- i. Whilst we note that Ofcom do not want to use *'public money...to buy new equipment that would have replaced old equipment with little remaining usable life'*⁷, Ofcom's understanding of the duration of 'useable life' and the value that functioning equipment retains is deficient.
 - ii. The full lifecycle of equipment from the date of purchase should not be defined simply by the time it takes to amortise its value. Ofcom must understand that PMSE owners of the equipment need to generate returns on their investment (surpluses). But more importantly, the lifecycle of the equipment is how long it operates before it breaks and needs to be replaced. Wireless microphones can last for much longer than 10 years and they retain use-value up until the point at which they need replacing; maximum depreciations are far less than the lifespan of the product. Therefore, financial assistance must be provided to replace any equipment that is still capable of operating in channel 69 at the point at which channel 69 will be cleared of PMSE. Moreover, since Ofcom cannot predict how long that wireless microphone would continue to function if PMSE were not evicted, then the full cost of replacing that equipment should be covered by the new licensees/Government. At present, Ofcom's assumed duration of the lifecycle of the equipment is conservative and consequently will therefore unfairly penalise those who look after their equipment, or specifically buy the expensive highly-engineered product, which is built to last 15 years.

