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Consultation on future use of the 700 MHz band

General Comments

I find this document disingenuous with contradictory statements, the following are two examples:

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Following this consultation, we expect to reach decisions on any potential changes in use of the 700 MHz spectrum band in late 2014 or early 2015.

Question 20: If, as a result of this consultation, we decided to go ahead with the proposed changes, what factors and evidence should we take into account when considering whether to hold an auction near to the time of availability of the spectrum or earlier

But on page 5:

We propose to make the 700 MHz band available for mobile broadband as soon as possible

Which of these statements are we to believe?

And a second example

From 1.10
However, WSDs will be able to continue operating in spectrum between 470 MHz and 694 MHz and potentially in other spectrum bands. We do not believe that the proposed change would materially reduce white space availability overall.

How can this be an accurate reflection of the situation? When currently DTT is spread between 470-790MHz with PMSE use

If the band is reduced to 470-694 with all DTT compacted into this band plus PMSE the simple laws of mathematics would suggest that the loss of 96MHz pus extensive concentration of DTT plus PMSE ***will*** reduce the white space available. No account is taken of the out of band energy limits proposed for this band which are higher than the 800MHz equipment, this will also pollute spectrum below 694MHz Also there are no proposals for other spectrum bands to guide the WSD industry.

Is this Band needed for the mobile service?

On what basis has the justification for this allocation to the mobile service been made?

- Looking at the projections by ITU-R SG 5D it would appear that another analysis contained in document 4-5-6-7/697 states that:

Document 4567/573, in particular that input data used in the Report ITU-R M.2290 model are at least two orders of magnitude (a factor of 100 or more) too high and that the results contained in Report ITU-R M.2290-0 are incorrect

- Are the traffic projections justifying this band of a similar nature?

Couple this with:

Ofcom data suggests it likely that over ~ 90% of the UK land mass ***some*** or all of any newly released spectrum above 2GHz will lay **unused** for a long time.

Spectrum Range	**Area of UK where some of the spectrum is unused (1)**	**Area of UK where all of the spectrum is unused (1)**
GSM spectrum at 900MHz or 1.8 GHz	**34%**	**6%**
3G spectrum at 2.1 GHz	**87%**	**24%**
5G at >2 & <4 GHz	**>>87%**	**>>24%**

- And the traffic offloads onto Wi-Fi
- Plus gains to be made by more efficient networks
- Did the cost benefits projected for the 800MHz band release actually happen?

Have Ofcom ***independent*** figures which provide a conclusive justification if all the above points are taken into the calculation?

Any reallocation of the 700MHz band should be implemented at a late a date as possible in order for DTT and PMSE to also minimise their costs and prepare for yet another major upheaval of their industries.

PMSE

In general the amount of work carried out identifying the PMSE issues is highly commendable, however this urgently needs to be put into concrete proposals, and those proposals supported at CEPT and ITU in time for WRC-15

1.9

> *For PMSE, we have considered the change as part of a broader review of the sector's access to spectrum. We believe that by making other spectrum available for audio applications, we will be able to ensure that the sector can continue to provide the important benefits it delivers today*.

But whilst the mobile industry has a clear timescale and vision for 'their' spectrum and therefore their equipment and network development there are NO concrete proposals for PMSE other than the nebulous statement *making other spectrum available.* With the timescales proposed for the release of the 700MHz band *how* are the PMSE manufacturers expected to develop equipment which will be available before the release of the 700MHz band?

In addition to the actual equipment work is required on the propagation which these unspecified bands will provide and to develop antennas and accessories to enable venues to provide 100% coverage for their events. It should be borne in mind that this will not be a simple, cheap or quick exercise.

The compensation scheme should include funds for R & D for both manufactures and venues

Whist the mobile industry has received massive support at national and international level PMSE stakeholders are disenfranchised and have received no support from Ofcom UK and are unable to participate in the UK delegations to ITU as Ofcom has "***no policy***" on PMSE (SAB/SAP). All this at a time when ITU is preparing for a WRC which will set the future of spectrum management for many years to come and CEPT is making similar decisions and again very very little support from Ofcom (with the one exception of FM51).

Response to Questions

Question 1: Do you have any comments on Analysys Mason's approach to quantifying the network cost savings and performance benefits?

Whilst the use of Wi-Fi offload is identified it does not offset the advantages to the MNOs against the disadvantage to other users of Wi-Fi who will have increased congestion and reduction in data throughput. With the vast amounts of spectrum being allocated to the mobile service why are the SRD bands being used? And why is there no negative financial cost set against the perceived advantages?

Question 2: Do you have any comments on the other benefits we have identified including the likely magnitude or how they may be quantified?

Yes, they do not adequately identify the downside of the supposed benefits to other stakeholders. Whilst 4.27 mentions the out of band issue the current proposals will have a detrimental effect on spectrum below 694 for both DTT and PMSE this is not clearly identified or placed in the cost –benefit analysis

Question 3: Do you agree with our assessment of the likely benefits of changing use of the 700 MHz band?

No, as stated above the more efficient use of existing spectrum and network efficiency should be investigated before reallocation of the 700MHz spectrum, whilst you comment on spectrum efficiency methods for PMSE no such proposals are made for MNOs

Question 4: Do you have any comments on our analysis of the implications change of use of the 700 MHz band would have for the DTT platform?

A very large cost for no benefit to viewers. No account is taken of the number of TVs and other equipment in a household which may also require changing/swapping out.

Question 5: Do you agree with our assessment of the likely costs of upgrading DTT transmission infrastructure?

No, also who pays? Like PMSE, DTT networks will have has been subject to some three changes in recent years whilst the BBC license fee has been reduced in real terms.

Question 6: Do you have any comments on our assessment of the timeframes within which it might be possible to complete a DTT replan?

They are too short and unrealistic.

Question 7: Do you have any comments on our assessment of the loss of value from existing DTT services in case of change of use for the 700 MHz band?

Copsey Comms believes the figures undervalue the loss.

Question 8: Do you have any comments on our analysis of the implications of potential changes for DTT viewers and for the platform? Are there any effects that may be important to viewers that we should consider further?

Whilst 6.34B mentions the effect of out of band emissions and states:

that restrictions on out of band emissions from mobile handsets be tightened

the reality is that they will be much relaxed from the 800MHz band and the mobile spectrum (UE) will be next to the DTT receiver or PMSE causing intermittent interference as the mobile moves into and out of the TV location

Question 10: Do you have views on the activities that Ofcom and other stakeholders could undertake now to help ensure that DTT equipment that consumers might buy in the coming years is as future-proof as possible

Yes ensure that ***all*** televisions meet the DTG standards and impose standards on coaxial cable used in TV installations - especially fly leads and the wall plates. Put in place RF standards for aerial amplifiers.

Question 11: Do you have any comments on our assessment of the impact change of use of the 700 MHz band would have on PMSE?

Yes: PMSE, if this allocation goes ahead, will have lost access to some 168 MHz of spectrum; plus the two MHz at 863- 865 will have been severely compromised by LTE OOB. Only CH 38 has, thus far, been provided as replacement. With no other spectrum clearly identified, and with R&D plus bringing equipment to market taking up to five years, none of this preparation can start until the new spectrum is identified, compare this with Japan:
1240-1300MHz was newly assigned to SAB/SAP (radio micophone use) and ENG use in Japan. This is the part of the spectrum restructuring plan by the Japanese administration. The radio microphones which used to be operated in 700MHz will move to this 1.2GHz band in the near future

No impact on PMSE use from WSD impinging on the remaining spectrum have been made, this is a major concern for many stakeholders.

Whilst the Ofcom document refers to the band edge as 694 this does not take into account the high levels of OOB proposed for the 700MHz in order to make "cheap equipment" available. Nor does it comment on the proposals to place PPDR in the guard band 694-703MHz which has not been studied and will impact the quality of spectrum for both DTT and PMSE below 694MHz.

Proposal

Clearly identify spectrum for PMSE, (the Japanese spectrum would provide some harmonization for the industry) and put it into the WRC- 15.

Question 12: Do you have any comments on the mitigations for loss of access to the 700 MHz band including whether we have correctly identified the replacement bands suitable for further study and whether we have correctly identified actions that the PMSE industry could adopt to improve spectrum efficiency?

Do you have any comments on the mitigations for loss of access to the 700 MHz band

There are many words but no action, either at a national or international level.

including whether we have correctly identified the replacement bands suitable for further study and

The proposal are just that; proposals. We are about a year away from WRC -15 and CEPT has not considered the majority of the bands identified for PMSE. Whilst welcoming the work it is a great pity this was not given the same urgency and resource the mobile proposals received. Given the amount of spectrum "identified" for the mobile service, it is a great pity that we have not followed the German allocations in L band - especially if the duplex gap contains an SDL.

Time scales are not mentioned, but as stated above, manufacturers and PMSE users will require some 5 years to place equipment on and replace equipment in the market and identify the changes required in venues **IF/Assuming** they can fund such work.

whether we have correctly identified actions that the PMSE industry could adopt to improve spectrum efficiency

The proposals are already in use in most cases and will not assist or mitigate the loss of spectrum and loss of quality of spectrum from mobile OOB.

Changes in the licensing scheme to encourage cognitive and semi cognitive systems may encourage users to consider these systems.

Question 13: Do you have any comments on our assessment of the impact of the change of use of the 700 MHz band on the TVWS availability?

Ofcom should rethink its WSD policy and if possible identify other spectrum outside the SRD bands. If the current policy is implemented it is extremely unfair to those purchasing equipment which will have such a short life.

Question 14: Do you agree with our use of the Spackman method for discounting both the costs and benefits of change of use?

Only if the input data is appropriate in the case of PMSE the figures do not represent the actual costs.

Question 15: Do you agree with our approach of estimating the cost of early replacement or should we be considering the full cost? Do you have any comments on how we have estimated the costs of early equipment replacement?

Given the costs incurred by the PMSE industry in recent years the full cost should be used, but not only the equipment. It should include all the replacement costs of any given complete system.

Do you have any comments on how we have estimated the costs of early equipment replacement

Copsey Comms do not recognize many of the costs as being realistic. As previously stated “It should include the replacement costs of the complete system”.

Question 16: Do you agree with our overall assessment of the costs of change of use of the 700 MHz band?

No. The benefits have been given every possible enhancement and the costs to other stakeholders unconsciously minimised at best, deliberately played down, at worst..

Question 17: Do you have any comments on our assessment of the impact of earlier or later change of use of the 700 MHz band?

You have not taken into account the time lag between allocating spectrum for PMSE and equipment and systems being available, thus disadvantaging the PMSE sector to the advantage of the mobile sector. Copsey Comms repeats that the starting date for re-use of the 700MHz band, if it takes place, should be as late as possible, thus encouraging the MNOs to reconfigure their networks in a spectrum efficient way and make the most of the spectrum that they already have access to.

Question 20: If, as a result of this consultation, we decided to go ahead with the proposed changes, what factors and evidence should we take into account when considering whether to hold an auction near to the time of availability of the spectrum or earlier?

The allocation of additional PMSE spectrum should be the trigger for deciding the date of release as*:*

You have not taken into account the time lag between allocating spectrum for PMSE and equipment and systems being available, thus disadvantaging the PMSE sector to the advantage of the mobile sector. Copsey Comms repeats that the starting date for use of the 700MHz band should be as late as possible, thus encouraging the MNOs to reconfigure their networks in a spectrum efficient way and make the most of the spectrum that they already have access to.

Costs

The document concentrates on "equipment costs" but does not consider the substantial costs already incurred from the 800MHz clearance which will not have been recouped by the suggested dates. Nor does it consider the very substantial costs which will be incurred in design, plan and fit (including possible loss of performances) for every venue or the costs of applying for compensation.

If the compensation system then sells on this equipment as it tried to do in the previous scheme, this will also depress the market place for PMSE manufacturers and generate resentment from PMSE users.

All this reallocation will not provide any financial benefit to the PMSE users.

Compare this with the mobile operators who will, according to the document have an enhanced income from their new allocation!

In addition, the proposals for the number of new engineers and those needing retraining are remarkably small and do not include the venue staff who will be expected to run these new systems.

The compensation plan requires considerable discussion with PMSE stakeholders. For example, the average cost of between £400 and £540 may be the case for non-professional equipment but the cost for professional equipment is many magnitudes higher, especially for professional PMSE hire companies. The assumption that equipment which can tune below 694MHz will not attract compensation needs review; for example in a medium or large production the total number of channels that the equipment can utilise will be insufficient for the event. Until clear spectrum proposals are made by Ofcom, PMSE users have no

real choice for new equipment. Also, all of the change out costs should be included in the scheme.

Why should PMSE stakeholders fund the MNOs profits?