PMSE
Nederlandse Belangenvereniging
Draadloze Audio Verbindingen
Programme Making & Special Events

Programme Making & Special Events
Postbus 85391
3508 AJ Utrecht
tel: 030-6382250
fax: 030-6353304
e-mail: info@pmse.nl
internet: www.pmse.nl

RSPG Secretariat
Office BU337/55
Avenue de Beaulieu 33
B-1160 Bruxelles

Houten, Januari 9th 2015
Concerning: respons on RSPG14-585(rev1)

Dear sir/madam,

Herewith the response of the Dutch PMSE association to your report "RSPG14-585(rev1) Draft RSPG Opinion on a long-term strategy on the future use of the UHF band (470-790 MHz) in the European Union" of November the 12th 2014 (http://rspg-spectrum.eu/wp-content/uploads/2013/11/RSPG14-585rev1- Draft-Opinion-UHF.pdf).

PMSE.NL is the Dutch independent, not-for-profit organisation of Wireless Audio Technologies related to the PMSE (Program Making and Special Events). We work for the benefit of all those who produce, distribute and ultimately consume content made by using radio spectrum in the Netherlands. We represent over 35 organizations in the Dutch PMSE-sector, covering public and private broadcast, associations of public and private broadcast facility companies, rental companies, associations for theatre technicians, theatre managers, event producers, and so on.

We are pleased to see that the RSPG has laid down its views on the use of cognitive technologies in this report and we like to take the opportunity to respond to some of its conclusions.
The RSPG is well aware that the UHF band from 470 to 790MHz is critical to the delivery of broadcast services and PMSE, especially after the 800MHz frequencies have already been lost to PMSE-users in recent years.
We therefore urge the RSPG to propose a regulation with technically appropriate and sufficient spectrum for PMSE and also a long-term-strategy for frequencies used for PMSE (TG6 ECC report 224).
We believe it is of the utmost importance that the European Commission harmonises a set of Radio spectrum bands for daily use of radio microphones used for Programme Making and Special Events (PMSE).

And last but not least, we like to emphasize that certain values cannot be quantified, such as the social and cultural cohesion within the European Union which is supported by events, the freedom of speech and newsgathering. PMSE tools are essential tools for these values and deserve to be recognised as such.

Sincerely yours,

Mr B.W. Westermann (president of PMSE)
E. Pierens (member of the board)

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Our remarks:

PMSE branches

The release of the 700 MHz band and maybe another part of the UHF band from broadcasting also increases the difficulty of transition of PMSE(programme-making and special events) and DTT.
The PMSE branches use the white spaces between DTT for radio microphones at sports events, in concerts and musical theatre productions. PMSE users have relied on the UHF band, and their continued operation must be safeguarded as the allocations and use of the UHF band evolve.
Instead, this spectrum will be allocated to Mobile Network Operators.
We expect this EU-decision will effect most important cultural, social and economic events.

Daily use

Under the new EU-rules, microphones will have access everywhere in any EU country to at least 59MHz of spectrum at EU-level outdoor (more spectrum can be made available nationally to cater for specific events and circumstances (EC report of Pascal Lamy)). In border areas this will be already a problem.

Every day over 10.000 wireless radio microphones are used in the Netherlands, for professional use in theatre and broadcast alone, largely operating within the spectrum that is to be cleared.
The current basic need for dense urban territories within the EU for wireless audio PMSE is more than 144 MHz of bandwidth within the band 470MHz up to 1 GHz (CEPT report 32).
Meanwhile, the growth of the number of channels used in events is estimated at 10% every year, and the data-demand growth is similar to that of IT/IMT.
When the available bandwidth for wireless-audio purposes is decreased, this will directly compromise the ability to produce (small and large scale) broadcasts and/or stage events, all depending daily on wireless connections.
The suggested space for PMSE is secondary to other functions (DAB/DVB-T/IMT/LTE/military services). We feel that the reusability of these frequencies is very limited, and it will lead to interference and unexpected malfunctions. In broadcasting we need a 100% reliability so this is not allowed.
This will result in not being able to produce programs or interrupted primary use. Both results are unacceptable for any user. What we demand is a policy by the European Commission that acknowledges the importance of the PMSE industry (users in particular) and a focus on a sustainable long term future that can accommodate the growth of the PMSE industry. We believe the secondary status of PMSE is an obstacle to a sustainable long term solution for PMSE. As RSPG already accepted the importance of PMSE, it would be good to give PMSE a higher status than other secondary uses in the interest of European social-cultural values.

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Innovation

In general PMSE does encourage innovation in more spectrum efficiency. However, we would like to emphasize the unique technical requirements for wireless microphones (100% duty cycle; high audio quality, virtually no latency, no interfering signals higher as -95 dBm; main user of UHF TV band white spaces). Sufficient protection of appropriate spectrum is therefore crucial. Wireless microphones can easily be considered as a "pre-cognitive radio system". Especially the high priced wireless microphone systems have scan functions over the part of the spectrum which they can cover and some of them have frequency management software to configure a multi channel system.
Users frequently contact databases of regulators and band managers to determine which TV band white spaces can be used. For this moment PMSE equipment is very spectrum efficient, we used white spaces secondary (until now we had no frequencies and used interference free unused UHF spectrum). PMSE industry has more than 60 years experience in the extremely efficient deployment of radio microphones, reporter sets, audio links and other wireless production technologies in TV white spaces. We think this experience should not be neglected.
The UHF TV- band white spaces are already used by PMSE.
Protection parameters for wireless microphones should be examined thoroughly before even considering cognitive radio in the UHF bands. We are not happy with inviting different services in 470-694 without looking to the current circumstances (RSPG p22). We agree that there has to come more certainty to PMSE, and platform evolutions of consumer habits have to take into account PMSE requirements and protection thereof.

Economic costs

Significant difficulties connected with a possible release of the 700 MHz band from the current use must be addressed before such a release is considered. The economic effect of releasing the 700 MHz band will also be the impact on PMSE.
PMSE plans will need to be reorganized locally and immunity of their installations and receivers will need to be improved to mitigate possible impact from mobile service transmitters using the same band. Solutions, and related costs, will be needed to accommodate PMSE applications, mainly radio microphones, which will lose access to the 700 MHz band. These cost include replacing or modifying current equipment operating in the 700 MHz, as well as new consulting and coordination activities to work out and deploy new frequency strategies for the remaining part of the UHF band. We want a compensation for users and owners of this equipment; they need help (money) for the transition.

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UHF - broadband or data traffic?

We note a lack of clarity in the Draft Opinion with regard to definitions of the terms "wireless broadband" and "wireless data traffic". (Article 3b) of the Radio Spectrum Policy Programme (RSPP) stipulates that: 'to best meet the increasing demand for wireless data traffic... every effort should be made to identify, based on the inventory established pursuant to Article 9, at least 1200 MHz of suitable spectrum.
The RSPG-Opinion provides no evidence that, to meet future demand for wireless data traffic, mobile services will require access to additional spectrum in the UHF band. Indeed, according to Section I of the Draft Opinion itself, the RSPG target of 1200 MHz for wireless data traffic has already been met and surpassed. There is no indication that the data traffic has to be in the UHF-band. Mobile broadband spectrum efficiency should be maximised by employing the most efficient technologies across all spectrum that is already available for mobile services before any new spectrum is allocated to mobile services.
We anticipate opposing a co-primary mobile allocation and IMT identification in the 470 – 694 MHz band.

Highpower LTE not efficient

We emphasize that most of the data traffic is generated indoors and this demand is best served by means of indoor (low-power) access points, rather than outdoor (often high-power LTE) base stations. High-power LTE requires almost exclusive use of its frequency bands. It does not allow sharing with broadcasting, PMSE or with any innovative cognitive radio systems. It also puts constraints on low power PMSE systems and receivers. Considering that the growing demand for wireless broadband data is increasingly solved by offloading methods such as Wi-Fi and Pico cells, but also better techniques.
The PMSE and EBU consider that the quantity of spectrum allocated for Wireless Local Area Networks should, indeed, be included in the definition of "suitable spectrum".

Roadmap for transition

We agree that it is unlikely that PMSE can use the same frequency space when IMT is in the 700MHz. (RSPG report 4.2). The use of the centre duplex gap will be an option for non professional use.
For professional use we expect that this gap it is not reliable.
PMSE has technical aspects of sharing between digital broadcasting and other services "The key to white space allocation is a geo-location database." We need to manage geo-location databases that tell us where these spaces are which we can utilise.
When the 700 MHz band (694-790 MHz) is repurposed for wireless broadband, sufficient time to ensure a transition path that minimises cost for spectrum users (such as PMSE users) and citizens, should be arranged and to accommodate the diversity in penetration levels of terrestrial broadcasting within Europe. We need a transition roadmap because PMSE operates also in the border areas of countries, the operation in these areas can be in danger (RSPG report p19-20). A difference in rolling out DTT and WBB in neighbouring countries is a very high risk for PMSE use. So we need a good planning and coordination between countries. We agree the three-three step formula from Pascal Lamy will help to reallocate the 700MHz for wireless broadband. We think also that it is necessary to secure investment for terrestrial television and PMSE use below 694 in a balanced way.
We urge the EU to ensure that the change in use of the 700 MHz band occurs in a way that safeguards the important benefits that DTT and PMSE services deliver to citizens and consumers.

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Innovate, but in which spectrum?

We think PMSE needs a clear use of white space spectrum. RSPG encourages the PMSE industry to develop more advanced and spectrum efficient technologies, but in which spectrum? (RSPG p27)
As to cognitive radio and spectrum sharing: we are doing this already for more than 60 years.
We are using spectrum efficiently because we have been able to use the parts of the spectrum not being used by others.
It has to be made clear in which spectrum PMSE has to innovate.