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By e-mail (CNECT-RSPG@ec.europa.eu)

RSPG Secretariat
Avenue de Beaulieu 33
Office BU33 7/55
B-1160 Bruxelles
Belgium

Re: **Response to Public Consultation on the Draft RSPG Opinions on a Radio Spectrum Policy Programme (RSPP)/ Spectrum Sharing/ Additional Spectrum Needs**

Dear Sirs and Madams:

APWPT welcomes the opportunity to comment on the Radio Spectrum Policy Group's (RSPG) consultations:

- Public Consultation on the Draft RSPG Opinion on a Radio Spectrum Policy Programme (RSPP)
- Public Consultation on the Draft RSPG Opinion on Spectrum Sharing – Pioneer initiatives and bands
- Public Consultation on the Draft RSPG Opinion Additional spectrum needs and guidance on the fast rollout of future wireless broadband networks.

APWPT is an independent EU-based association, working for the benefit of all professionals who use PMSE-related radio spectrum (www.apwpt.org). APWPT has been very active for more than ten years in various regulatory proceedings with the European Commission - EC, Radio Spectrum Policy Group - RSPG, European Conference of Postal and Telecommunications Administrations - CEPT and national regulators to secure PMSE protection against interferers in international organizations on standardization, e.g. ETSI, ECC/CEPT and ITU-R. For instance, APWPT has provided its input¹ in the consultation on RSPG17-037 (long-term strategy on future spectrum needs and use of wireless audio and video PMSE applications) and to the Lamy Report.²

PMSE (wireless audio and video equipment) is the first part of any production chain, i.e. any harmful interference affecting these low-power devices will have an immense influence on the quality of the content production such as live broadcast, music and sports events, conferences, etc. All these events are increasing in numbers and quality to deliver the expected user experience. All this content production demands a high volume of free spectrum.

¹ https://circabc.europa.eu/d/a/workspace/SpacesStore/7c4e2799-e32e-42a1-98cb-3f8a1997ce50/RSPG17-037finalrev1_RSPG_opinion_PMSE.pdf

² <https://ec.europa.eu/digital-single-market/en/news/results-lamy-report-public-consultation-700mhz-spectrum-band>

1. GENERAL COMMENTS

The concerns that APWPT previously raised in 2017 in the **RSPG17-037** proceeding deserve to be reiterated: the PMSE users continue to be under threat by other spectrum users wanting to access the whole 470-960 MHz band without in most cases meeting their coverage obligations in their existing allocations' to date. There is no similar interference free spectrum universally available within ECU let alone worldwide.

APWPT repeats that PMSE “has yet to see any roadmaps that seriously take into consideration the real-world spectrum needs for continued successful PMSE operations.”

The current mandate for the PMSE spectrum policy needs to be extended to include daily production spectrum requirements at ‘hot-spots’ (TV studios, media production parks etc.), not just peak demands. In addition, the current work should continue with the involvement of all stakeholders – similar to the work of the former, very successful “High Level Group” for the Lamy Report to which the APWPT contributed. As stated in 2017, the industries that PMSE serves are major economic drivers of the overall EU economy – maybe now in the time of a pandemic even more than ever.

Due to **COVID-19**, the EU citizens were suddenly forced into online communication that relies even more on PMSE and its ability to create and transmit high level content, especially outside of the traditional broadcasting area such as:

- online conferences,
- sport events,
- political and religious gatherings,
- theater,
- online music and movie/show production by web stream services and individual content producers,
- international meetings.

This PMSE demand will not fall once the pandemic is over. As per 2017 response, many decision makers in the EU and elsewhere are using PMSE in their daily business and lives without thinking that their audio or video equipment needs clean spectrum, which can only work properly in a small range of spectrum bands. They all expect a clear transmission of their voice and data and of course no harmful interferences. Nomadic, time-limited uses of PMSE need to be taken care of. All existing spectrum users in a band must be required to use their current spectrum allocation's spectrum efficiently, instead of requesting additional spectrum for much hyped cutting-edge, but largely untested applications. Please also consider that if these applications came to market, they will need PMSE for content production.

Consequently, the APWPT has two general suggestions:

(1) The current Council and European Parliament Decision of Decision (EU) 2017/899 of the European Parliament and of the Council of 17 May 2017 on the use of the 470-790 MHz frequency band in the Union must be amended so that it will provide legal certainty **beyond** 2030 to terrestrial broadcasting **and PMSE** (Section 3.4 of the Consultation Document), and

(2) If the RSPG supports a smooth transition to new technologies and convergence of services, (Section 6.6 of the Consultation Document), this support **must include and duly consider PMSE** as a driver and prerequisite for creative contents. Serious consideration needs to be given to what the economic impact of lack of adequate spectrum provision for PMSE applications will be. A long-term spectrum strategy for Europe should not be based on the false assumption that more spectrum for mobile broadband will automatically lead to economic growth, but on facts and reliable data.

2. SPECIFIC COMMENTS

COMMENTS ON A RADIO SPECTRUM POLICY PROGRAMME (RSPP)

a) SECTION 2.1- Spectrum sharing

APWPT welcomes the initiative from the RSPG to explore innovative sharing solutions to make a more efficient use of the spectrum, as long as the priority and quality of service requirements of PMSE use cases can be ensured at all time.

PMSE has a long history of spectrum sharing with broadcasting in the TV-UHF band in Europe and in other regions. The establishment of such a common usage is possible in Europe thanks to the GE06 agreement for cross border coordination of DTT channels³ and due to the predictable behavior of broadcasting service. This successful sharing scheme has allowed to maximize the efficient use of the spectrum. Moreover, it has allowed audio PMSE manufacturers to produce application specific cost-effective equipment to satisfy the demands of the production sector.

Access to quality, interference-free spectrum is key for PMSE. Quality of Service requirements of PMSE use cases must be met at any time when spectrum sharing applies.

b) SECTION 2.2. - Licensing and Spectrum Awards

PMSE users have a long history of deploying and operating their own wireless network which can be local and permanent or temporary (i.e. from a few hours to several days) and / or nomadic (i.e. for touring performances). It is important to ensure timely and flexible access to adequate spectrum for such applications in the future, including for the provision of local private networks based on new wireless technologies. Flexible authorization methods and allocations are needed so that nomadic, time-limited spectrum use like PMSE will be sufficiently covered. APWPT has the following comments on dedicated local spectrum for PMSE:

- For PMSE, simple spectrum access is the foundation for the business case of many users. It is in the common interests of the PMSE users, the manufacturers and rental companies that

³ Cf. CEPT Report 29 in response to the Mandate on “Technical considerations regarding harmonisation options for the digital dividend in the European Union” available at <https://docdb.cept.org/download/3743ec3a-71fe/CEPTREP029.PDF> (p. 6): “The GE06 Agreement covers all procedures for the coordination between broadcasting on one side and broadcasting or other primary services including mobile services on the other side. After the application of the coordination trigger mechanism of GE06 resulting in a list of those countries with which coordination should be sought, detailed technical coordination is required to check and ensure compatibility between concerned assignments/allotments/stations [...]”

- the equipment can always rely on low cost access to local spectrum as stated in the Lamy Report⁴ and in EC Decision 2014/641/EU.⁵
- There is a need for EU harmonized bands so that PMSE can thrive and facilitate cross-border use/operation of PMSE equipment across the EU. In order to achieve this goal, EU could follow the concept of tuning ranges enshrined in CEPT documents and used in PMSE industry (see also CEPT Rec 70-03).⁶ Any frequency management / technical regulation change has to be made available to the industry as far in advance as possible (minimum 3-5 years) is important for all PMSE manufacturers to develop and test their equipment and users to generate change over funding.
 - APWPT supports the RSPG's efforts encouraging the EU Member States to digitalize their procedures for spectrum applications and granting access to spectrum, especially to enable easy spectrum access for local users.

c) SECTION 3.1 - Innovative wireless services

We kindly request RSPG not to rely on the 5G and 6G technologies in isolation. Such communication technologies / protocols might not be able to support many of the application's identified in their publicity documents— example professional⁷ audio applications. In addition, we want to highlight the developments in DECT technology, as far as we are aware the only technology, which allows private local networks for different applications. DECT technology is also used for some audio-PMSE applications. DECT has applied for being listed as IMT2020 technology, in addition to 5G.

The RSPG recommends that spectrum related options should be developed for addressing vertical needs in the mm-Wave-bands. APWPT would like to emphasize that mm-Wave-bands are not a feasible option for all PMSE applications and use cases due to propagation and body loss.

d) SECTION 3.4 – BROADCASTING and PMSE

APWPT fully supports the intention of the WSG response for revising the wording of Section 3.4. As mentioned above in the general comments section, APWPT proposes that the text in Section 3.4 be amended to state *"... is providing legal certainty **until 2030 and beyond** to terrestrial broadcasting and **PMSE**..."*

⁴ Lamy Report, available at <https://ec.europa.eu/digital-single-market/en/news/report-results-work-high-level-group-future-use-uhf-band>: "PMSE plays an important part in almost every aspect of content creation, from broadcast through theatre, film and web. [...] Content production for all platforms must be protected through the future use of spectrum in the UHF band, including for PMSE. [...] It is essential that timely and sufficient funding is provided, in particular for the costs of: [...] upgrading or purchase of new PMSE systems and equipment [and] access to radio spectrum at affordable costs for licensed PMSE use wherever the case."

⁵ EC Implementing Decision of 1 September 2014 on harmonised technical conditions of radio spectrum use by wireless audio programme making and special events equipment in the Union, available at <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014D0641&from=EN>: "Although the spectrum needs of wireless audio PMSE equipment vary significantly, between 8 MHz and 144 MHz, depending on specific local and temporary needs, professional users indicates their daily spectrum needs for wireless audio PMSE applications at 96 MHz in the UHF spectrum.."

⁶ Available at <https://docdb.cept.org/download/25c41779-cd6e/Rec7003e.pdf> with subsequent amendments.

⁷ A commercial network is unlikely to be able to support multiple real time radio microphones and the cost to users would be prohibitive.

As mentioned in the general section above, the role of PMSE is crucial and therefore needs to be considered in every spectrum planning discussion.

APWPT is very concerned about an initiative to allow governmental drones co-channel to DECT spectrum as it is currently discussed within CEPT.

e) SECTION 4 – SPECTRUM GOVERNANCE

APWPT welcomes the view on coordination. PMSE users rely on harmonized frequency access and commonly available tuning ranges (for example: UHF band 470 – 694 MHz).

f) SECTION 6.6. – AUDIO VISUAL MEDIA POLICY

Adequate access to spectrum is vital for upholding European values and fostering the cultural and creative sector growth and jobs. The benefits of terrestrial broadcasting are recognized in European law as an integral part of the general interest. More specifically, EU Directive 2009/140/EC as amended⁸ promotes “social, regional or territorial cohesion” and “cultural and linguistic diversity and media pluralism.”

Therefore, we would suggest the following wording “*The overall objective is to strike a balance to the benefit of the general interest in all Member States.*”

COMMENTS ON ADDITIONAL SPECTRUM NEEDS AND GUIDANCE ON THE FAST ROLLOUT OF FUTURE WIRELESS BROADBAND NETWORKS

RSPG Opinion 2 and 5:

APWPT recognizes the situation and understands the reasons behind the heterogeneous way that spectrum needs have been handled at national level.

However, we would like to remind you that many PMSE use cases are “everywhere, anytime, and by anyone,” resulting in mobile, nomadic, and fixed deployments of specialized local networks. We would like to encourage the Member States to consider the needs of PMSE serving cross-border use cases when assessing and setting priorities for efficient spectrum use. Flexible authorization methods and harmonized tuning ranges are required to allow for PMSE cross-border use cases.

APWPT considers that it would be beneficial for the users if licensing regimes and spectrum ranges for PMSE were harmonized across the EU, simplifying for cross-border operations.

The final goal should be that PMSE equipment can be used through a single harmonized band for local users. As an intermediary step, suitable tuning ranges would be useful.

PMSE has a long history of spectrum sharing with broadcasting in the TV-UHF band in Europe and in other regions. The establishment of such a common usage is possible in Europe thanks to the GE06 agreement for cross border coordination of DTT channels and due to the predictable behavior of broadcasting service.⁹ This successful sharing scheme maximizes the efficient use of the spectrum

⁸ <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:337:0037:0069:EN:PDF> especially at 24, 36, 37.

⁹ Cf. CEPT Report 29 in response to the Mandate on “Technical considerations regarding harmonisation options for the digital dividend in the European Union” available at <https://docdb.cept.org/download/3743ec3a->

and has allowed audio PMSE manufacturers to produce application specific cost-effective equipment to satisfy the demands of the production sector.

Access to quality, interference-free spectrum is key for PMSE. Quality of Service requirements of PMSE use cases must be met at any time when spectrum sharing applies.

RSPG Opinion 3:

The APWPT would like to emphasize that mm-Wave-bands are not a feasible option for all PMSE applications and use cases due to propagation and body loss.

RSPG Opinion 6:

APWPT welcomes the initiative for studies of 3.8-4.2 GHz for local vertical applications. But this initiative should not lead to not considering other frequency ranges for local private networks in frequency ranges below 6 GHz.

Annex I: Survey Questionnaire sent to RSPG participants

We would like to ask RSPG not to rely solely on 5G and 6G technologies. Such communication technologies / protocols are unlikely to be able to support all kind of applications – example professional audio applications.

In addition, we want to highlight the developments in DECT technology, as far as we are aware the only technology which allows private local networks for different applications. DECT technology is also used for some audio-PMSE applications. Please be aware that DECT has applied for being listed as IMT2020 technology in addition to 5G.

Please also note that general communication technologies might not be able to support all application needs and proprietary technologies cannot be avoided, in the future.

The RSPG recommends that spectrum related options should be developed for addressing vertical needs in the mm-Wave-bands.

The APWPT would like to emphasize that mm-Wave-bands are not a feasible option for all PMSE applications and use cases due to propagation and body loss.

[71fe/CEPTREP029.PDF](#) (p. 6): “The GE06 Agreement covers all procedures for the coordination between broadcasting on one side and broadcasting or other primary services including mobile services on the other side. After the application of the coordination trigger mechanism of GE06 resulting in a list of those countries with which coordination should be sought, detailed technical coordination is required to check and ensure compatibility between concerned assignments/allotments/stations [...]”

COMMENTS ON SPECTRUM SHARING – PIONEER INITIATIVES AND BANDS

APWPT welcomes the initiative from the RSPG to explore innovative sharing solutions to make a more efficient use of the spectrum, as long as the priority and quality of service requirements of the PMSE use cases can be ensured at all time.

PMSE has a long history of spectrum sharing with broadcasting in the TV-UHF band in Europe and worldwide. The establishment of such a common usage is possible in Europe thanks to the GE06 agreement for cross border coordination of DTT channels and due to the predictable behavior of broadcasting service. Any successful sharing scheme must maximize the efficient dynamic use of the spectrum and allow audio PMSE manufacturers to produce application specific cost-effective equipment to satisfy the demands of the production sector.

When discussing spectrum sharing possibilities the requirements of the different applications and users need to be considered in every aspect. Such assessment might request different sharing solutions for every frequency band, there is definitely no one solution that fits all.

Access to quality, interference-free spectrum is key for PMSE. Quality of Service requirements of PMSE use cases must always be met when spectrum sharing applies.

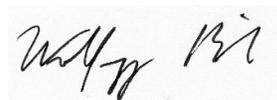
APWPT would like to emphasize that network slicing is not possible for all industrial applications because of privacy, liability, availability issues.

APWPT agrees that a multi-tier approach is possible, as long as the priorities given support the PMSE use cases at all time.

In connection with spectrum sharing, APWPT supports the approach that local licenses should be granted under a light licensing regime as described in more detail in ECC Report 132:¹⁰ - ***Light-licensing** is a mechanism whereby the users of a band are awarded non-exclusive licences which are typically available to all, and are either free or only have a nominal fee attached to them. There may be further obligations associated with the provision of a licence such as the need to register the location of any transmitters and possibly to coordinate their deployment with other registered users.*

APWPT would be pleased to contribute further to this discussion. Please do not hesitate to contact us.

Yours sincerely,



Wolfgang Bilz
Chairman of the Board of APWPT e. V.

¹⁰ ECC Report 132: LIGHT LICENSING, LICENCE-EXEMPT AND COMMONS, Moscow, June 2009, available at <https://docdb.cept.org/download/87ccb237-fa9a/ECCREP132.PDF> at 9., also acknowledged by the U.K. regulator Ofcom.