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## 1. Company profile

JFMG Ltd is the dedicated band manager for programme-making, entertainment, special events and related activities. It is a privately owned company created specifically to ensure continued and equitable spectrum access to all areas of the programme-making industry.

JFMG successfully coordinates the use of spectrum, issues licences and collects licence fees on behalf of Ofcom, and have done so since 1997. The spectrum we manage ranges from 47MHz to 48GHz and requires expert knowledge of the bands, their uses and restrictions. This includes the spectrum within Ofcom's Digital Dividend Review and the interleaved spectrum.

In the UK, the professional use of radio for programme making and entertainment purposes is referred to as Programme Making and Special Events (PMSE). PMSE applications include:-

- Broadcast television studio production
- Broadcast television and radio coverage of news, sport or other public events including state occasions
- Theatre and touring shows (e.g. Doctor Dolittle, Cirque du Soleil)
- Music and other entertainment productions (e.g. Live8, Mandela, Glastonbury, T in the Park)
- Motor sport communications and remote monitoring (e.g. F1GP, Moto GP)
- Conferences, and corporate presentations and events
- Movie film productions

JFMG Ltd facilitates the successful running of these events. JFMG also provides on-site consultancy services and is committed to leading the industry through the transitional period ahead.

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## 2. Summary statement

JFMG has a significant interest in the outcome of the debate around WSDs because WSDs will be using interleaved spectrum that is already used by PMSE and because wireless microphone users will be almost solely reliant on this spectrum after 2012. JFMG is keen to ensure that PMSE is protected from interference from WSDs, something that is particularly important to the PMSE users who will be paying to use the spectrum whilst WSDs will be able to access it for free.

JFMG supports geolocation as a means of managing WSD access to spectrum. However we would like to see further work carried out to refine the parameters and models of the database to make them as robust as possible to ensure that PMSE assignments get the level of protection from interference that is required.

### 3. Consultation questions

***Q1: What are your views on the likely use and take-up of WSDs? Do you intend to participate in this area, for example by hosting a pilot or developing equipment?***

JFMG has no particular expertise in the likely use and take-up of WSDs, it isn't our field and we are unlikely to develop hardware. That said we can see the PMSE industry looking to make the most of the techniques to gain access to spectrum, either unlicensed or through some light licensing route. A niche PMSE WSD application that utilises its own database would be attractive, although this is only likely in the future once WSDs have already become a mature technology.

***Q2: Are these appropriate conditions for licence exempting WSDs?***

JFMG believes that the conditions are appropriate and reasonable. However we do have considerable concerns around the detail of the procedures and algorithms that support them. Annex 4 of the consultation document outlines proposals for these database procedures, however we suggest analysing the details of the algorithms further. The proposed propagation model, characterising the PMSE terminal below roof height, isn't suitable. It assumes PMSE receivers at 1.5m agl which is not typical practice; JFMG coordinates PMSE assignments at 10m in line with typical operation. We would therefore like to see the procedures and algorithms revisited to reflect protection typically at 10m agl.

***Q3: Is the lack of European harmonised standards problematic for development of WSDs?***

JFMG believes that the lack of European harmonised standards is difficult for the development of WSDs because devices travel across borders. If devices respond in the same way wherever they are (in Europe or worldwide) then PMSE users are less likely to experience interference. It would be advisable for Ofcom to set up controls to ensure that only devices compliant with defined standards of operation and performance can be used within the UK.

Also the economies of scale from devices manufactured to a harmonised standard will result in greater use and a better use of spectrum.

***Q4: Do you have any comments on these requirements? Are there any other requirements that should be placed on the database?***

Ofcom is clear that white space access will only be permitted if it does not cause harmful interference to licensed use of the band and meeting the requirements of the geolocation database will achieve this. We recommend considering the propagation algorithms and interference parameters in Annex 4 more closely, as set out in the answer to Q2, and refining them.

JFMG also would like to see the ability to update parameters or algorithms for operational PMSE reasons. For those coordinating the use of PMSE spectrum at major events a procedure will be needed to temporarily extend PMSE protection via the database. Particular operational knowledge of an upcoming event would inform additional protection distances for PMSE. Examples could include protecting hoist mounted receivers at a golf tournament or proactively limiting the number of WSDs operating close to an event venue to reduce aggregate levels of interference.

It would also be ideal if the master database was updated in 'real time' to ensure it reflects up-to-date licensing information as PMSE use is unpredictable and often last minute.

Finally, we suggest that there should only be one source of PMSE information for the database. This should be the database used by the organisation that is responsible for the management of PMSE spectrum. This would ensure the information is accurate and consistent and remove any administrative burden for PMSE users who wish to protect their use from WSDs.

***Q5: Do you have any comments on these responsibilities?***

JFMG believes that these responsibilities have been pitched just right.

***Q6: Might you be interested in becoming a database provider? If so, can you provide more details on the extent and timing of likely provision?***

JFMG is aware that its parent company Arqiva is exploring this opportunity.

The database owner must make an arrangement with the organisation that manages PMSE spectrum to access the data.

***Q7: Is our approach of working with Europe where possible but moving ahead alone if no European approach appears forthcoming appropriate or should we await European harmonisation regardless of how long this might take?***

JFMG would prefer European harmonisation and we understand that work has been progressing to define the technical and operational requirements for WSDs in 470-790 MHz on a European wide basis. We encourage Ofcom to continue to participate in these discussions to ensure that the UK and Europe can work together.

However, if harmonised standards are not agreed soon, we shouldn't halt progress in devising the UK geolocation database solution ready for suitable devices.

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