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Mr

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Representing:

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Organisation (if applicable):

Ministry of Defence

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What additional details do you want to keep confidential?:

Keep part of the response confidential

If you want part of your response kept confidential, which parts?:

Response 5.

Ofcom may publish a response summary:

No

I confirm that I have read the declaration:

Yes

Additional comments:

Question 1: Do you agree with Aegis's conclusions on

congestion of current use of 420-470 MHz spectrum? Are there any other signs or areas of congestion that Aegis have not identified from their review?:

See responses to Question 2, Question 5 and Question 6, addressing future Defence requirements and current use as part of the public sector.

Question 2: Do you agree with Aegis's conclusions on the future demand and use of 420-470 MHz spectrum over the next ten years? Are there any other future uses or areas for future demand that Aegis have not identified from their review?:

The MOD makes use of a high volume of narrowband radio systems and a lower volume of wideband telemetry systems in this frequency range. In lower UHF frequencies than this CFI addresses there are also satellite services that would need to be considered from an adjacent user aspect to ensure no detrimental impact from any significant changes to the UHF1/2 bands. Due to the mobile nature of much use by the MOD, as well as an increase in the use of frequency agile radio systems, the locations and specific frequencies the MOD uses can vary, making increasing any sharing burden on the MOD a potentially significant impact. The MOD makes use of a number of these systems within UK territorial waters, as well as on land.

The MOD has over 3000 frequency assignments for various locations and frequencies across the 400-450 MHz range, with an average frequency reuse of 65 allocations per channel, and a peak of over 100 for certain frequencies.

The Aegis report identifies the requirement for protection of the Fylingdales radar (discussed further below), although this factor is not fully considered in the scenarios presented, and Emergency Services and NATO use of UHF frequencies. However, it did not consider NATO planning for future UHF communications, which could lead to increased congestion of both the NATO UHF frequencies and the UHF1 band. As these considerations are likely to be influenced by the PPDR discussions at WRC-15, it is unlikely the scale of future demand would be known under 2016 at the earliest.

Additionally, as Government initiatives lead Departments to release or increase sharing in higher frequency ranges, congestion in other bands is likely to increase except where technological solutions can allow greater utilisation of spectrum.

The current use and mode of operation of the Fylingdales radar is not anticipated to change and therefore the radio footprint of the radar will remain unchanged. The MOD wishes to highlight that the whole of the UHF1 band is important with regard to the radar and therefore it is undesirable that any other services aggregate within the band beyond currently agreed levels. Any proposals for changes through the UHF bands would need to factor in the potential impacts to the radar as a significant factor, which has not been addressed in the Aegis report.

Question 3: Do you agree with Aegis's conclusions that there is not yet any UK demand for wideband services in the 450-470 MHz band (which could for example, be used to improve rural mobile coverage)? Please provide any

supporting evidence for your position.:

No comment.

Question 4: Have you experienced degradation in your systems? performance which you consider to be caused by continental interference in the last 12 months? If yes, what approach did you take towards managing and minimising interference?

Please provide any supporting evidence which explains the frequency, impact, duration, time, location and cause (whether suspected or investigated) of the interference with respect to your specific sector(s).:

The MOD has no evidence of specific interference events on the UK mainland which are considered to have been caused by a continental interferer.

Question 5: Is there additional information relevant to the configuration of the 420-470 MHz band that we should consider in developing our approach to its future management? Please provide any evidence to support your views.:

(Confidential)

Question 6: Do you agree with the potential solutions Aegis have proposed for managing the 420-470 MHz band to both meet the continued growth in congestion and demand from incumbent spectrum users, and to facilitate the deployment of wideband technologies? Are there any other solutions which you consider we should examine that Aegis have not identified from their review?

Please provide any evidence to support your position and reference each solution in your response as appropriate.:

The Aegis report is not clear on how band reversal would be implemented with respect to public sector users. This would need to be robust to ensure Defence capabilities are not impacted by either the management of the bands upon reversal or the transition, if this was seen as a potential solution.

Due to security classification and operational requirements, it is not currently possible for Ofcom to be fully sighted of the MOD assignments to allow Ofcom to take management ownership of all users within the 420-470 MHz range. The MOD has already worked closely with Ofcom in identifying sharing opportunities that will not impact Defence capabilities, and this has led to the existing sharing which is managed in terms of channelling, geography and non-interference, non-protection licensing.

Further civil utilisation of the UK2 frequencies would not be possible (other than potentially on a small scale/case by case by exception basis) unless MOD were to gain access to a wider frequency range to reduce Defence frequency reuse. As this approach would simply increase the complexity for spectrum management and is unlikely to yield significant additional sharing opportunities in respect to the likely costs and impacts of implementation, MOD does not support this approach if it were to include public sector assignments.

Question 7: Do you have any further comments relevant to how we might manage spectrum between 420-470 MHz? :

As identified in response to Question 6, the MOD has already worked closely with Ofcom to identify sharing opportunities to ensure maximum spectrum efficiency while retaining the protection and utility of Defence capabilities.

Improvements in the flexibility of licensing to ensure public sector use remains sufficiently protected and capability of utilising shared spectrum could allow for a number of small scale additional opportunities.

Question 8: Do you have any comments on our proposed programme of work, the outcomes from which we will use to inform future decisions on how we manage the 420-470 MHz band? Are there any additional areas you consider we should explore?:

The MOD requests to be kept informed not only of considerations and aspects which could affect it directly as manager of Defence spectrum, but also as the primary user in a number of shared assignments of UK2 spectrum.