

Consultation questions

Executive summary

Question 1. The executive summary sets out our proposals for the DDR band manager award. Do you agree with these proposals?

We generally agree with OFCOM's proposals for the DDR band manager award. We would like to highlight some possible adjustments to make the award both more appealing and fair, reasonable and non discriminatory (FRND) as to the wealth of the candidate band managers.

First, we would like to suggest that the AIP licence fees be defined as a “ mark-up “ or “ cost plus “ based, amongst other factors, on the product of spectrum width and duration allotted by the band manager to a band user. We define the “ mark-up “ basis as a business model where the band manager invoices the band user for the allocation in the name of the exchequer, the exchequer perceiving payment on said allocation and retributing the band manager based on a percentage of the amount invoiced by the band manager to the band user. We define the “ cost-plus “ basis as a model where the band manager invoices the band user for the allocation and the perceives payment, band manager thereafter paying the exchequer a portion of the perceived payments on a regular basis. We politely submit that any other form of AIP may be financially non-FRND for candidate band managers.

In establishing its beauty contest criteria, we believe that the candidate band managers temporal stability could be considered to ensure that the candidate band manager has demonstrated its ability to successfully manage a corporation via its continued existence. We state this as it is a well known fact that many corporations fail in their first few years of existence and we firmly believe that failure of the selected band manager could cause significant damage to the control/allocation of the spectrum and thereafter, political damage to OFCOM for having selected such corporation as a band manager.

The text discusses of FRND, however it also discusses of discrimination based on the eventual use of the band for religious purposes. We believe that a dispute mechanism should be established to settle band allocation disputes. We also believe that the cost structure of such a dispute system should be made such as to assure the band manager's neutrality and objectivity.

We believe that one of the scopes of the band manager should be to act as an implementor of OFCOM policies and not a policy maker. This would allow the band manager to be and remain objective and focused on what we believe should be its purpose and scope; namely “dynamically allotting spectrum as per OFCOM policies” rather than being involved setting policies and resolving disputes between band usage contenders.

An alternate position is to have the band manager have an additional task, run by a separate department, whose scope is to act as a dispute arbitrator. In such an event, appropriate immunity and protection should be devolved to the band manager to ensure that undue pressure is not placed upon the band manager in the arbitration process. It would also need to be determined beforehand if the band manager's decisions are final and binding or if there would be some form of appeals process among which its form, when and under what circumstances such appeals could be requested and who would be the final authority in such a case, i.e the band manager or OFCOM.

On the band manager's commitment to PMSE users, we believe additional criteria may be added. The band manager's proposal should include how it intends to fix or vary price from time to time, how some allocations may be on a " use case " basis while at some others may be on a " live auction " basis and what mechanisms will be put in place to avoid the formation of spectrum monopoly without deployment, how to avoid spectrum resale " scalping " etc...

We would like to propose that the published band manager negative audit results be limited to items the audit process has raised and that the band manager has either failed to correct or elected not to correct in a timely manner. We believe that this allows the manager to be more transparent with the auditors by the token of knowing that if he voluntarily and expeditiously acts such as to correct items raised by the auditors, such a process becomes a continued improvement process rather than a public and thereby harmful political process. We suggest this to favour transparency between the band manager and the auditors whilst ultimately empowering the auditor to inform the public on any points of major and continued failure to improve and correct.

Spectrum to be awarded

Question 2. Do you agree with our proposal to award access rights to channel 38 that will last as long as we sustain the protection of radioastronomy in the UK?

Yes

Question 3. Do you agree with our proposal to include the interleaved spectrum in channels 61 and 62 in the cleared award?

Yes

Question 4. Do you have any views on our proposed approach to protecting reception of DTT services?

We believe that in some frequency ranges, actual radio coverage varies with climatic conditions and terrain topography. This being said, we would favour the DPSSA approach as this can be clearly geographically delimited provided such geographic DPSSA area does not exceed the actual radio coverage area as seen by a typical consumer TV set with a reasonable antenna gain at a typical antenna height above ground.

We believe that taking into account the protected DTT transmitter position, the fact that DTT receiver antennas should be oriented toward the DTT transmitter, the DTT receiver antenna polarization and gain required to receive an acceptable signal (D) {hence its antenna pattern}, the band manager should have sufficient knowledge and should be allowed frequency reuse if another service (U) would apply for transmission in the area within said frequency band provided the band manager deemed by calculus that sufficient D/U ratios were maintained to protect the DTT receiver from harmful interference to the DTT signal. This would allow the band manager to increase the efficiency of spectral use significantly in areas where the spectrum may be crowded.

Question 5. Do you agree with our proposal not to award the bands between 11.7 GHz and 12 GHz to the band manager?

Yes

Question 6. Do you agree with our general approach of awarding the remaining 49 Ofcom-managed bands allocated to PMSE but lying outside the digital dividend to the band manager?

Yes. We believe the band manager operating on a cost plus basis would have a strong incentive to promote the efficient use and reuse of the spectrum. The cost plus basis would also allow OFCOM to monitor and publish reported findings, thereby forcing the band manager to be efficient and reasonable. The cost plus basis would allow OFCOM to set the cost plus mark-up ratio, where it could raise the ratio to increase incentive or lower the ratio to force increased efficiency. This should yield the same benefits to the public as a competitive approach whilst maintaining the advantages to the PMSE of a single coordination source.

Question 7. Do you agree with our proposal to award key PMSE bands to the band manager?

Yes

Question 8. Do you agree with our proposal to award 2290-2300 MHz to the band manager on the same terms as other wireless-camera channels at 2 GHz?

Yes. We also believe that there may be means to minimize disruption to any existing camera systems if they deploy directional antennas for any point to point links, thereby allowing for frequency reuse. Since spectrum is a scarce and limited resource, we believe there should be a means placed on the market, such as those described in the consultation text to force current users to think twice about status-quo with old, antiquated and inefficient apparatus in favour of more efficient spectrum use, including advances in modulation techniques and the limitation of spectral pollution in an area through low cost means such as wise antenna pattern and polarization selection.

Question 9. Do you agree with our proposal to award low-demand PMSE bands to the band manager?

Yes. We see a major opportunity for these bands for the economic provision of high speed digital terrestrial internet (HS-DTI) services to the rural communities where it is currently non-economical to provide such high speed services via wired systems.

Question 10. Do you agree with our proposal to award no-demand PMSE bands to the band manager?

Yes.

Question 11. Are there any other types of DTT transmission that should be protected from potential cognitive devices or other factors that we should take into account?

We have been heavily involved in the study of cognitive systems to protect other systems. Although cognitive systems may be very useful in protecting and coordinating in very short range (<100 meters) communication systems like WiFi, we believe that they are ill suited for protecting longer range communication systems. Cognitive systems all suffer from the possibility of being in the shadow of an obstruction between the cognitive device and the transmitter whose signal is to be protected, they are generally unable to detect the presence of receivers tuned to said transmission and thereby, by definition, cannot assure that the transmitters they control will not cause harmful interference to a receiver attempting to receive protected transmissions. This is more true in shadowed areas, as the receiver to be protected may be working hard to demodulate a signal that is close to the noise floor. We believe that a much larger system, with knowledge of all transmitted signals to be protected in a given band and geographical area is needed (such as the AmeriSys Geographic Electromagnetic Radiation Control System {GERCDS}). Such a cognitive system is based on the same premises as the current regulatory systems but operated over the internet by a network of computers who know about topography, propagation conditions, DPSA, etc and who dynamically implement policies which can dynamically allot and review and revoke licences based on date, time, frequency, antenna orientation, polarization, gain, radiation pattern, terrain topology, climatic conditions, etc... Such cognitive systems can also be informed of the location of receivers that are to be protected and therefore can provide effective on-line decisional knowledge to any request for bandwidth allocation. It is envisioned that such a system could also provide the framework for eventual costing scenarios thereby allowing for openly defined cost policies application for swift, dynamic and transparent spectrum allocation and withdrawal.

Question 12. Are there any potential future PMSE applications other than currently available wireless microphones, in-ear monitors and talkback systems that you consider should be protected from potential cognitive devices?

No response

Question 13. Is there sufficient evidence to require protection for other services such as mobile television, bearing in mind the potentially negative implications of such protection for deploying cognitive devices?

No response

Question 14. Do you have any views on the appropriate notice period for temporary PMSE access to channels 63-68 and/or on whether we should extend temporary access to channels 31-40?

No response

Licence duration

Question 15. Do you agree with our proposal that the licence to be awarded should have an indefinite duration?

Yes. However, we envision that the fact that OFCOM retains rights to revoke will ensue in an automatic plea for review of any unfavorable decision to an applicant for any allocation made by the band manager. At best, this could be problematic for both the band manager and OFCOM and grounds for such revocation should be well defined to assure that the band manager can be an effective and authoritative band manager, confident its decisions will be frivolously appealed by those who may have not won an allotment contest. We also believe that OFCOM is moving toward the concept of a band manager to free itself of such decisions and care should be exercised to achieve this goal rather than complexify it.

Question 16. Do you agree with our proposal that the licence to be awarded in respect of bands currently used for PMSE should be subject to no initial period?

Yes.

Question 17. Do you agree with our proposal that the licence to be awarded in respect of bands currently used for PMSE should be subject to a notice period for variation or revocation on spectrum-management grounds of one year?

Yes.

Question 18. Do you agree with our proposed approach to allowing the new institutional arrangements for PMSE spectrum access to bed down?

Yes.

Question 19. Do you agree with our proposal that the licence to be awarded in respect of bands with no current PMSE use should be subject to no initial period?

Yes.

Question 20. Do you agree with our proposal that the licence to be awarded in respect of bands with no current PMSE use should be subject to a notice period for variation or revocation on spectrum-management grounds of five years?

Yes.

Question 21. Do you agree with our proposals for varying or revoking the band manager's licence during the notice period?

Yes. However, we do have comments on a couple items. Some of the listed items could be removed. For example, if the payments were made by the party to who a licence is devolved by the band manager were to be made directly to the exchequer with a commission being returned by the exchequer to the band manager, any possibility of non-payment by the band manager could be eliminated. Furthermore, unless the band manager is given legal power of attorney by OFCOM, we do not see how the band manager can enforce its decisions if a third party does not comply to the band manager's ruling or does not follow the law and therefore, why such failure of a third party could be ground for OFCOM to vary or revoke the band manager's license.

Question 22. Are there bands where PMSE users require earlier certainty about longer-term access in the interests of promoting spectrum efficiency than our timetable for the band manager award allows?

No response.

Award design and process

Question 23. Do you agree with our proposals for the three selection criteria by which we will assess applications for the licence to be awarded?

Yes.

Question 24. Do you agree with our proposal to enshrine the commitments to PMSE users made by the successful applicant in the licence awarded to it?

Yes.

Question 25. Do you agree with our proposed approach to assessing applications?

Yes. We also agree that an applicant who has not been successful should be informed by transmission of the publishable report on cause of failure beforehand and given the opportunity to accept or deny publication of the reasons for his failure. If the applicant accepts publication and agrees with the findings in the report, your then public report could include said text and state that the applicant agreed to its publication whilst if the applicant denied publication or disagreed with its findings, the report could simply indicate that the application was denied and the applicant denied publication of the details. This would indeed look bad for the applicant but would not become a source of “business problems” for the applicant in his other endeavours.

Licence conditions

Question 26. Do you agree with our proposal to use the block-edge mask approach to determine the technical licence conditions relevant to this award and to base these masks broadly on existing arrangements for PMSE spectrum access?

Yes.

Question 27. Do you agree with our proposal to set a separate fee for each Ofcom-managed band to be awarded?

Yes, with reserve. We believe clause 8.26 is a real problem. It promotes a system whereby when the band manager finds a band where there is no or less financial gain for him to return said band to OFCOM while retaining the most profitable bands. We believe the band manager should be forced to handle all the bands initially allotted so that he has incentive to render all these band profitable rather than returning them to OFCOM. If this is not done, on the long term, we believe OFCOM has a very high risk of finding itself deprived of all the lucrative bands and the band manager handling only the lucrative bands, with no incentive to the band manager to really work hard at making these relinquished bands lucrative. We also believe that there is no incentive here for the band manager to favour the good of the broad public but rather only the lucrative value the band manager may receive from the license purchaser. In some cases, these may not align and the good of broad public interest may suffer. An example of such may be the purchase of spectrum by an entity, not in the desire of actually exploiting it but rather from the value of preventing others from exploiting it. In such case, the spectrum may end up vacant as it is perceived more lucrative for the entity purchasing it to do so than to actually use it efficiently. We believe 8.26 and 8.28 should be sensitive to this fact and that safeguards be placed in the award to prevent such spectrum waste to take place and create dis-incentives to the band manager in tolerating such outcome, where spectrum is allotted by not actively exploited..

Question 28. Do you agree with our proposal initially to set fees for access to MOD-managed spectrum on a comparable basis?

We believe MOD bands contain a higher risk than non-MOD bands in the fact that we believe that MDO bands may be commandeered by MOD at any time for national security purposes. Given this risk, MOD band pricing may have to be adjusted to allow for effective use where risks of MOD commandeering the band for immediate use, without any advanced notice and for an indefinite period is realized by the band user and will not result in excessive injury to the band user. Therefore, if we understand correctly, we believe the MOD bands will be of comparable but proportionately lower value than non-MOD bands. We believe the GERCDs system is ideal for such bands as it has built-in provisions for such.

Question 29. Do you agree with our proposal to determine the band manager's licence fee first by deriving estimates of the opportunity costs of the spectrum to be awarded and second by setting band-by-band prices that strike an appropriate balance between our objectives for this award?

No. We believe that there are two opposing force at work here. One is a political force, as that of protecting less efficient uses with greater public value, such a those of the PMSE. The second is that of a free market where opportunity value reigns, even when public value is a high risk. The is why we maintain the then band manager should be operating as a stock market operator within the bounds set by political forces (OFCOM and MOD), better managed by a governmental institution like OFCOM which represents the public good. We also believe that placing fees on the band manager and allowing him to re-sell the spectrum will make the band manager a client of OFCOM. We believe that if all payments were to continue to be payable to the current governmental structure and a cost-plus based approach were given to the band manager, the band manager would then perceive OFCOM and band users as the clients. In business, the client is always right. The supplier tends to need to move to satisfy the client, not the other way around. Therefore, we believe that the new environment should be set up as to avoid having the band manager dealing with political forces that be and rather have the band manager concentrate on the day to day activity of efficiently allotting spectrum as per the rules set forth by OFCOM. Moreover, this would ensure that OFCOM does not have to take the risk of trying to forecast the future and allow it to dynamically adjust policies which would then be handed down to the band manager for implementation. Duties would be clearly divided. OFCOM would deal with the political forces and determine policies. The band manager would implement policies as defined by OFCOM.

Question 30. What are your views on the options for phasing in AIP to full opportunity cost?

See answer to question 29.

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See answer to question 29.

Question 31. Do you agree with our proposal to set the band manager's licence fee for three years and to review it after that period?

We believe the band manager should operate as an OFCOM broker, on a cost plus basis and that this should be reviewed frequently to assure efficient operation at reasonable costs with reasonable profit margins for the band manager. We believe this should be synchronised with the band manager's performance assessment and operations audit, possibly on a yearly basis to allow for OFCOM, as a client, to keep a close tracking of the band manager, at least in the first few years of its operation.

Question 32. Do you agree with our proposal to review the band manager's licence fee periodically but no more frequently than every three years thereafter?

See answer to question 29.

Question 33. Do you agree that where the interleaved spectrum to be awarded to the band manager is used for the operation of a DTT multiplex, we should replicate the ownership restrictions in the

Broadcasting Act regime relating to (a) local authorities, (b) political bodies, (c) religious bodies and (d) bodies exerting undue influence but not replicate restrictions relating to (e) broadcasting bodies and (f) advertising agencies?

No response.

Question 34. Do you agree that we should facilitate interoperability between existing DTT multiplex operators and new operators using the interleaved spectrum awarded to the band manager?

Yes, provided OFCOM retains the right to regulate if the industry fails to achieve an acceptable level of interoperability.

Question 35. What are the merits of our proposed approach to providing spectrum information, in particular concerning the type of information that might be helpful and any impact that publishing information might have both on licensees and the wider spectrum market?

We would like to propose that to protect confidentiality of precise information on locations of transmitter facilities and the industrial espionage, we would suggest that the magnitude and orientation of electromagnetic fields be published where such fields are below a threshold value, which should represent the reasonably receivable field values. For example, instead of publishing where a transmitter is located, one could publish the areas where no transmitter reaches and if any, a coarse value of any remnant field from a far-away transmitter or collection of transmitters such as to allow one to determine where a transmitter may be added and used for any given band.

PMSE protection

Question 36. Do you agree with our assessment of whether our approach to awarding this spectrum appropriately promotes competition and efficiency?

We believe the approach of “selling” the spectrum to a band manager and letting free market resale to dictate the value of this spectrum will be cause for monetary gain concerns of the band manager to override the good of the people. As stated above, we believe OFCOM should allow the band manager to brokerage the spectrum for OFCOM in compliance with policies set forth from time to time by OFCOM. This would ensure OFCOM that the band manager's priorities and actions are in line with promoting efficient use of the spectrum within the bounds of OFCOM policies.

Question 37. Do you agree with our proposal that “reasonable” PMSE demand for the spectrum awarded to the band manager should be defined as the actual demand from PMSE users at FRND prices?

We believe that “reasonable” should be reviewed and redefined from time to time, for each band by OFCOM and that OFCOM policy should evolve gradually, as it sees fit, taking into account both market forces and the good of the people without trying to see excessively far in the future and without making any long term assumptions as to the evolution of technology and the benefits that frequent re-evaluation may allow..

Question 38. Do you agree with our proposals for ensuring that the band manager meets reasonable PMSE demand on FRND terms?

We believe so much in this part that we think it is important that OFCOM retains full control on the band ownership and pricing structure and thereby that OFCOM should retain policy setting powers over any given band. We believe the band manager's capital risk can be severely reduced and that compensating margins may be seriously reduced if OFCOM elects to award the band manager function strictly on a cost plus basis. Since the band manager has financial advantage in licensing out as much spectrum as possible in such an environment, it will have an incentive to operate quickly and efficiently. It will also have an incentive of maximizing band efficiency by being able to receive revenue in proportion to the total sales of spectrum and in direct proportion to the total sales in any given band. We believe such an approach would be the most reasonable to all, OFCOM, the band manager and the spectrum users.

Question 39. Do you agree with our proposal to incorporate a suitable licence condition to enable us to access the spectrum awarded to the band manager to meet the requirements of the London 2012 Olympic Games and Paralympic Games and the Glasgow 2014 Commonwealth Games?

No response.

Question 40. Do you agree with our proposed approach to spectrum access for other major events?

We believe the content of this section illustrates how and why OFCOM should retain ownership of the band and the band manager should be a broker for this spectrum rather than owner of this spectrum. We believe OFCOM should retain policy setting powers over any given band as many of the considerations OFCOM details are purely of political nature to protect the better good of the people rather than the "laissez faire" of market forces. The band manager may be in an untenable position if he is required to define policy from political influence and maintain FRND. Political influence on the spectrum licensing should remain within the government or ensuing unrest and legal challenges should be expected. If required to set policy, the band manager will necessarily have to factor in legal costs for its continued protection as well as liability insurance for such and we believe this will not efficiently serve the better good. On the contrary, we believe the band manager should have some form of decreed immunity from such matters and that such matter should remain with OFCOM to avoid additional costs by the band manager, costs which OFCOM, as a government agency is by its nature, less prone to incur.

Question 41. Do you agree with our proposals concerning disputes between the band manager and PMSE users as a whole?

If OFCOM insists that the band manager be implicated in setting policy and be influenced by political processes, then we agree. However, we suggest the broker approach, where the band manager dispenses the spectrum as per policy defined by OFCOM would yield a better outcome. We also believe that the band manager's operation would be much more transparent if it's role is to broker, much like a stock market, available spectrum and that OFCOM defines and dictates policy to the band manager and the exact conditions under which the band manager operates, as a broker of OFCOM, dispenses and manages, favouring at the same time market forces where so defined by OFCOM, PMSE users as specified by OFCOM from time to time and the general public good, as specified by OFCOM from time to time. This avoid OFCOM having to second guess the long term future, being able to dynamically adjust policies to market forces, spectrum value, PMSE user needs and the general good of the public.

Question 42. Do you agree with our proposals concerning disputes between the band manager and individual PMSE users?

Once again, we believe such disputes are best solved at a political level and the band manager to remain objective and FRND, should not be involved in such disputes. We believe any disputes should remain between OFCOM and the band manager in how it implements OFCOM policy rulings with enhancements proposed by the results of the auditor.

Next steps

Question 43. Do you agree with our estimate that the band manager will require six months from licence award until it begins operating?

We believe the band manager should be able to start operating within this time scale but that it may require a phase-in period, period during which the band manager tasks and bands will be gradually devolved from OFCOM to the band manager. We believe that a private enterprise based band manager will probably manager the band in a radically different way than a government based entity and therefore that OFCOM may initially want to closely monitor the band manager and gradually release the spectrum as the band manager physically demonstrates its success at attaining the desired goals for the released portions of the spectrum.
