Question	Your response
Question 1: Do you agree with the prioritisation of the agenda items, as shown in Annex 5, and if not why?	Confidential? – N ESOA does not disagree with the Agenda Items that OFCOM has currently selected as having high priority. However, ESOA would like to propose that Agenda Items 9.1.7 and 9.1.1 be elevated from their current "low" priority status. ESOA believes that OFCOM has a clear interest in a successful outcome of both agenda item and that these therefore deserve OFCOM's attention at least as a "medium" priority.
Question 2: Ofcom is supporting the following three priority bands for IMT identification in the RRs: **24.25 – 27.5 GHz** **40.5-43.5 GHz (as part of a wider global 37-43.5 GHz tuning range)** **66 – 71 GHz** **If you don't agree with any of these bands, or think we should be promoting other bands, please provide justification for your views.**	Confidential? –N ESOA can agree with the identification of these three bands for IMT under certain conditions, and provided appropriate actions are made in other bands as a consequence of supporting these three bands for IMT. **<u>24.25 - 27.5 GHz</u>**: The compatibility studies show, based on assumed IMT-2020 parameters in conjunction with Recommendation ITU-R M.2101, a protection of FSS (E-s) with a margin of about 12 dB. IMT technical and deployment characteristics may evolve in the future and result in excessive interference into FSS/ISS satellites. Should this occur, interference reduction at satellite receivers after the deployment of IMT systems would be complicated due to aggregate interference from a large number of IMT stations as well as the fact that satellite footprints can cover territories of multiple administrations. Some regulatory measures have been included in ECC Decision (18)06 to address long term protection of FSS/ISS satellites taking into account the compatibility studies, including interference margin results: • Requiring that the tilt of IMT base stations should normally not be higher than 0 degree. • Requiring that the mechanical tilt of IMT base stations shall be below the horizon. • To regularly update characteristics of IMT (including base station density) and to study/assess the impact on sharing and compatibility with other services. This would enable recommendation of corrective measures to address situations whereby the interference threshold to FSS/ISS space stations would be at a risk to become exceeded. It is noted that such process would also be relevant to the continued protection of EESS passive band in the 23.6-24 GHz. The regulatory measures included in the ECC Decision (18)06 should be part of the regulatory measures at WRC-19 for the 24.25-27.5 GHz and a WRC-19 Resolution to protect FSS in this band. Furthermore, ESOA notes the measures regarding FSS/ISS in the ECC Decision (18)06 and is of the view that appropriate in-band TRP limits would have also been needed to ensure protection of FSS/ISS space stations and would have represented a balanced solution in this band. **<u>40.5 - 43.5 GHz</u>**:

The studies have shown possibilities to achieve co-existence between IMT and other incumbent services under certain conditions. Therefore it is possible to:

- Upgrade the existing secondary mobile allocation in the frequency band 40.5-42.5 GHz to a primary allocation in the Table of Frequency allocations in Region 1 and identify the frequency band for IMT by a new footnote with certain regulatory conditions.
- Identify the frequency band 42.5-43.5 GHz for IMT in Region 1 by a new footnote with certain regulatory conditions.

Regulatory measures similar to those included in the ECC Decision (18)06 should be part of the regulatory measures at WRC-19 for the 24.25-27.5 GHz and future draft WRC-19 Resolution to protect FSS in this band.

To preserve existing HDFSS identifications in other Regions (noting that IMT and HDFSS as per RR footnote 5.516B are not compatible), this proposal to identify IMT in 40.5-43.5 GHz should be limited to Region 1.

Furthermore, ESOA notes the measures regarding FSS/ISS in the ECC Decision (18)06 and is of the view that appropriate in-band TRP limits would be needed to ensure protection of FSS space stations in 42.43.5 GHz and would represent a balanced solution in this band.

Additional consideration on 37 - 40.5 GHz:

Since Europe will support an identification for IMT in the band 40.5-43.5 GHz and is willing to maintain a necessary balance within the range 37-43.5 GHz between spectrum for IMT in 40-5-43.5 GHz and spectrum for other services in 37-40.5 GHz (noting amongst other that IMT and HDFSS as per 5.516B are not compatible), there is a need to support no change to the RR in the band 37-40.5 GHz. In absence of NOC in this band, the position on AI 1.13 would not be balanced and would not preserve possibilities for existing services.

A reasonable outcome at WRC-19 for the range 37-43.5 GHz would be as illustrated below.

<table>
<tr><th></th><th>37-39.5 GHz</th><th>39.5-40</th><th>40-40.5</th><th>40.5-43.5 GHz</th></tr>
<tr><td>Region 1</td><td>No change</td><td colspan="2">No change</td><td>IMT</td></tr>
<tr><td>Region 2</td><td colspan="2">IMT</td><td colspan="2">No change</td></tr>
<tr><td>Region 3</td><td>No change</td><td colspan="2">No change</td><td>IMT</td></tr>
</table>

This solution would provide 3 GHz of spectrum for IMT in all ITU Regions and would allow common IMT equipment to be used, provided the RF equipment can tune across the whole 37-43.5 GHz range. This solution would also preserve the bands identified for HDFSS through RR footnote 5.516B, which is important to provide regulatory certainty to the satellite industry, so that the investments for new satellite systems in this frequency range can be made with a clear and stable regulatory framework. The situation in Region 3 seems to be less well defined but the 40-40.5 GHz is identified for HDFSS. For economies of scale and to assist the market in Region 1, it would make sense to have Region 3 align with Region 1. ESOA proposes that the UK supports this global solution for the frequency range 37-43.5 GHz.

ESOA would be strongly opposed to the identification of the full range 37-43.5 GHz in all 3 Regions.

	66 - 71 GHz: The studies have shown possibilities to achieve co-existence between IMT and other incumbent services under certain conditions. Therefore, ESOA supports identification of the frequency band 66-71 GHz for IMT in accordance with certain conditions in a WRC Resolution.
Question 3: What are your views on the suitability of the currently identified bands for HAPs and do you think there is a requirement for additional spectrum? Recognising that we support 26 GHz as a global band for IMT under agenda item 1.13, what are your views on the bands currently under study for HAPs, both globally and in ITU-R Regions?	Confidential? –N ESOA would like to note that, when considering modifications to current identifications or new identifications for HAPS, protection of existing FSS and a viable sustainable access without undue constraints to the planned FSS services allocated in the considered bands needs to be ensured.
Question 4: What are your views on the bands within scope of Agenda Item 1.16 and their suitability for Wi-Fi and Wi-Fi like services? Do you agree that Ofcom should support the CEPT position of No Change? If not, please provide evidence to support your view.	Confidential? – N ESOA provides the following views on the bands under consideration in AI 1.16: • support no change in the RR in the 5 250 - 5 350, 5 350 - 5 470 and 5 850 - 5 925 MHz frequency bands; • supports to ensure compatibility with other services and applications in the 5 725 - 5 850 MHz range, in particular Road Tolling, FSS, as well as radars taking into account the effectiveness of any mitigation technique; ESOA could also support in response to the demand for Wireless Access Systems, including RLAN, some measures for the frequency bands 5 150 - 5 250 MHz (relaxation of conditions where appropriate) and 5 725 - 5 850 MHz (limitation of RLAN to indoor deployment and an eirp limit of 100mW/20 MHz per RLAN Access Point). ESOA also notes that the demand for additional spectrum for WIFI is still not properly justified by the WIFI industry.
Question 5: Do you agree that UK support the inclusion of the updated Recommendation M.1849-1 ("Technical and operational aspects of ground-based meteorological radars") in footnote No.5450A? What are your views on the requirement to	Confidential? – N ESOA does not have a view on this question.

include a reference to ITU-R Recommendation ITU R M.1638 1 in footnotes No.5447A and 5.450A and the potential impact upon Wi-Fi (and similar technologies)?	
Question 6: Do you agree that UK support a position of not making changes to the Radio Regulations to reference specific bands for M2M/IoT usage?	Confidential? – N ESOA does not have a view on this question.
Question 7: What are your views on the potential removal of the limitations listed above?	Confidential? – N Taking into account the protection of existing operation services and applying the appropriate regulatory measures to ensure their protection, the removal of the limitations is beneficial as allows to have access to more orbital positions and its associated spectrum However existing and future FSS networks operating in the frequency bands 12.5-12.75 GHz in Region 1, 11.7-12.2 GHz in Region 2 and 12.2-12.75 GHz in Region 3 and BSS networks implemented in accordance with the current provisions of Annex 7 to Appendix 30 shall continue to be protected. ESOA considers that Method C includes necessary regulatory measures to take into account concerns of all interested parties and encourages Ofcom to take an active position to defend Method C both in CEPT and internationally.
Question 8: What are your views on the approach we are proposing to take in respect of ESIMs and are there any additional factors that you think we should take into account?	Confidential? – N ESOA supports the adoption of provisions in the RR to facilitate the operation of ESIM in the bands 17.7-19.7 and 27.5-29.5 GHz. Regulatory provisions for ESIM have previously been discussed and agreed in CEPT and we note that Ofcom has implemented ECC Decision DEC (13)01 and adopted national regulations based on the CEPT framework. We are pleased that Ofcom and CEPT are supporting the extension of such regulations globally. It is particularly important that the UK continues to promote the aero ESIM pfd limits adopted by the CEPT, as other more restrictive limits have been proposed by some administrations. For maritime ESIM, ESOA supports the adoption of the Resolution 902 approach, but would highlight the importance that a distance in line with the CEPT studies (i.e. 60-70km) is adopted rather than larger distances proposed by some administrations to avoid unnecessary constraints on ESIMs. ESOA supports Ofcom's opinion that Recommendation ITU-R SF.1719 provides a valid short-term interference protection criteria for fixed service links that operate with a typical 10 dB clear-sky fade margin. However, it is important that UK continues to

	promote the methodology used in CEPT studies, which adjusts the link fade margin based on fixed station antenna gain in order to avoid overly conservative results.
Question 9: What are your views on the establishment of regulatory provisions, in Article 22, that cover non-GSO operation between 37.5 and 51.4 GHz?	Confidential? – N The ESOA membership is actively engaged with this issue at national, regional and international levels. This is primarily a regulatory issue seeking to establish rules for NGSO operations that ensure protection of the GSO both operating under the same FSS allocation in these frequency bands. ESOA supports clarifying and establishing predictable regulations, aiming for improved efficiency of satellite procedures while protecting existing services, and in particular GSO satellite networks. ESOA supports establishment of a regulatory framework for NGSO systems in the frequency bands 37.5-39.5 GHz (s-E), 39.5-42.5 GHz (s-E), 47.2-50.2 GHz (E-s) and 50.4-51.4 GHz (E-s), which may include appropriate limits for NGSO systems in Article 22 and Resolution 750 (Rev. WRC-15). In establishing a regulatory framework for NGSO systems, ESOA does not support modification of the GSO FSS limits in Resolution 750 as this is outside the scope of Resolution 159 (WRC-15). If studies demonstrate it to be appropriate, ESOA could support an introduction of limits in Resolution 750 for future NGSO FSS to maintain the existing interference environment. ESOA urges OFCOM to consider these views when preparing the UK position and proposals into the CEPT regional process and national process leading into WRC-19.
Question 10: What are your views on the various issues under consideration under Agenda Item 7, particularly in respect of the bringing into use of non-geostationary satellite networks (i.e. Issue A)?	Confidential? –N **<u>ESOA overall position on Agenda item 7:</u>** ESOA favours a stable and predictable regulatory framework for efficient and economical use of spectrum and orbit resources. Hence ESOA supports retaining the current process of continuing evolution at successive WRCs of the regime governing space services. ESOA favours the review of any RR provision which can bring accurate solutions to specific detected inconsistencies and develop new improved provisions with emphasis on solving the most urgent issues, i.e. well characterized issues whose improvement is urgent and impacting. Further, ESOA notes that since the last WP 4A meeting in July 2018 there are thirteen sub-issues established in ITU-R under Agenda item 7, issues A – M. Since the earlier issues E and F were suppressed at the WP 4A meeting, there was also some re-labeling of issues where the old issues M and N became the new issues E and F. ESOA here responds with our common positions on ten of these thirteen issues; A – G and K in the order of the current labeling, but also making the connection to the labeling in the consultation document. **<u>Issue A:</u> Bringing into use of frequency assignments to all non-GSO satellite systems, and consideration of a milestone-based approach for the deployment for non-GSO satellite systems in specific bands and services** ESOA seeks a balance between the need to prevent spectrum warehousing, the proper functioning of coordination mechanisms and the operational requirements related to the deployment of a non-GSO satellite system. ESOA therefore supports a milestone based

deployment approach, providing regulatory certainty to networks and recognition that constellations of non-GSO satellites may generally take time to be fully deployed. ESOA supports the adoption of a unique method encompassing all types of constellations and supports that the studies should be limited to the frequency assignments to FSS, BSS and MSS non-GSO systems.

ESOA supports that the BIU definition to be adopted by WRC-19 is associated with a single satellite to be deployed at the end of the 7-year regulatory period. ESOA also supports that the first milestone associated with a certain number of satellites to be defined is one to two years after the 7-year regulatory period. Thereafter, one or two additional milestones should be applied to networks recorded in the MIFR. Recognizing that some constellation may deploy some satellites but may fail to meet the milestones, a provision (Deployment Factor) is supported to reduce the number of satellites recorded in the MIFR while preserving the rights of the in-orbit satellites. Systems brought into use before WRC-19 in compliance with the recently adopted RoP should be subject to the milestone based deployment approach, including any transitional measures if needed.

<u>Issue B:</u> Application of coordination arc in the Ka-band, to determine coordination requirements between FSS and MSS systems, and between MSS systems

ESOA supports to introduce the coordination arc mechanism to determine the coordination requirements between FSS & MSS systems and between MSS systems in Ka band. The coordination arc criteria would substitute the ΔT/T>6% criteria that currently applies, as it would help facilitating and make the coordination procedures more efficient, while keeping the possibility for Administrations to request ΔT/T criteria under RR No. 9.41. ESOA supports adequate modifications to Table 5-1 of RR Appendix 5 to implement this proposal, as Method B in the draft CPM text.

ESOA therefore agrees with UK's provisional view that "the coordination arc is improving and making more efficient the coordination procedures" but ESOA fails to understand why UK "continue to support further studies on this issue" as ESOA is of the view that no further studies on this issue are needed.

<u>Issue C:</u> Issues for which consensus was achieved in the ITU-R and a single method has been identified

ESOA supports the collection of several different topics into Issue C that are viewed as straightforward and for which consensus was achieved within ITU-R in order to enable the efficient work of WRC-19.

<u>Issue D:</u> Identification of those specific satellite networks and systems with which coordination needs to be effected under RR Nos. 9.12, 9.12A and 9.13

ESOA supports to modify the details published in the BR IFIC in order to reduce the administrative workload related to the identification of potentially affected satellite networks and/or systems with which a new satellite network or system need to effect coordination.

ESOA therefore supports that the Bureau in the CR/D special publish section the "definitive lists" of those specific GSO networks or non-GSO systems with which coordination under RR Nos. 9.11A, 9.12, 9.12A or 9.13 needs to be effected, similarly to what is currently done under the provisions of No. 9.36.2. ESOA supports adequate RR amendments to implement this proposal, as Method D2 in the draft CPM text.

	ESOA understands that once the relevant software currently used by the Bureau will be amended as needed, such an approach would not significantly increase the daily workload of the Bureau. **<u>Issue E (Issue M in the consultation document):</u> Resolution related to RR Appendix 30B** ESOA supports to directly address the concern for administrations having nothing in the RR Appendix 30B List, to allow these administrations to convert their national allotments into assignments. ESOA therefore supports a possible WRC Resolution along the lines of Resolution 553 (WRC-15) which addresses a similar issue for the 21.4-22 GHz BSS band for Regions 1 and 3. **<u>Issue F (Issue N in the consultation document):</u> Measures to facilitate entering new assignments into the RR Appendix 30B List** ESOA supports to revise and restructure the coordination triggers used in Appendix 30B to take into account technological advances and the development of the use of the geostationary orbit to facilitate access for newcomers by avoiding overprotection and unnecessary coordination requirements. ESOA believes that this proposal would help to alleviate the difficulties faced by administrations in attempting to enter assignments into the Appendix 30B List and to facilitate coordination of networks. **<u>Issue G:</u> Updating the reference situation for Region 1 and 3 networks under RR Appendices 30 and 30A when provisionally recorded assignments are converted into definitive recorded assignments** ESOA supports that when a network in Region 1 and 3 enters the List under § 4.1.18 of Appendix 30 or 30A, the reference situation of the interfered-with network shall only be updated if and when the Bureau is informed that the agreement has been obtained, or if there is still disagreement that the reference situation of the interfered-with network shall only be updated if and when the Bureau is informed by the affected administration to do so. ESOA suggests to modify § 4.1.18*bis* to reflect this view, as Method G1 in the draft CPM text. ESOA notes that the preliminary CEPT position was updated at the PTB meeting in April 2018 when it was unanimously decided to suggest a minor change to the CEPT preferred method at the WP 4A meeting in July 2018 in order to increase the chances of reaching consensus. ESOA support this way forward and suggests that UK updates its provisional view to align it fully with CEPT. **<u>Issue K:</u> Difficulties for Part B examinations under § 4.1.12 or 4.2.16 of RR Appendices 30 and 30A and § 6.21 c) of RR Appendix 30B** ESOA supports that the examination under § 4.1.12 or 4.2.16 of RR Appendices 30 and 30A and § 6.21 c) of RR Appendix 30B is performed in two steps, if needed, to better reflect the actual situation and to enable newcomers to benefit from the reduction of satellite networks parameters and characteristics during the coordination process, and thus increase the efficiency of spectrum use, as in the single Method in the draft CPM text. ESOA believes that this method avoids over protection of earlier networks based on Part A characteristics which could be obsolete and no longer valid due to changes during the coordination and entering into the List. ESOA support the overall aim to facilitate entering new assignments into the RR Appendix 30B List and to facilitate coordination of networks for newcomers which the proposal in Issue K targets.

	ESOA disagrees with UK's provisional view to "support continued study" as ESOA is of the view that further studies on this issue are no longer needed. ESOA would further suggest that UK changes its provisional view into supporting the single method in the draft CPM text and thereby aligning it with CEPT and ESOA.
Question 11: What are your views on Agenda Item 9.1.1?	Confidential? – N The bands 1980-2010 MHz and 2170-2200 MHz are assigned to two MSS operators in Europe: EchoStar and Inmarsat. Both operators have MSS satellites in operation, providing service in the UK and elsewhere in Europe. Inmarsat is currently deploying the European Aviation Network, which includes a complementary ground component, providing broadband connectivity to aircraft passengers in Europe. EchoStar Mobile is in operations with its MSS service offering EU-wide MSS service. ESOA members currently have different views as to what action should be taken at WRC-19 to address this issue.
Question 12: What are your views on the potential establishment of satellite pfd limits, in the 1 452 – 1 492 MHz band, to protect terrestrial use?	Confidential? – N ESOA does not have a view on this question.
Question 13: Do you have any views on the bands being studied and are there any other considerations which you think should be taken into account? What are your views on the appropriateness of the current emission limits in the band 3 700 – 4 200 MHz?	Confidential? – N ESOA supports No Change to the Radio Regulations on this issue, as ITU-R studies have shown that circular-orbit non-GSO FSS operations used for global broadband services in the examined bands could result in large exceedances when tested against the Recommendation ITU-R S.1323 protection requirements to ensure compatibility of non-GSO operations with GSO networks, thus confirming the appropriateness of the current emission limits in 3700-4200 MHz in protecting GSO networks. ESOA further notes that No Change to Articles 21 and 22 of the Radio Regulations for all bands considered under 9.1.3 is the single conclusion in the finalized draft CPM text.
Question 14: Do you agree that no changes to the RRs are required, under Agenda Item 9.1.7, and that managing the unauthorised operation of earth station terminals (deployed within its territory) should be	Confidential? – N ESOA supports the current studies in order to assist administrations to manage the unauthorized operation of earth station terminals since earth station licensing and related issues of licensing are national matters and no changes to the Radio Regulations are necessary, as Article 18 sufficiently addresses the required international regulatory measures. Therefore ESOA is of the view that the issue referred to in studies under 2a) is already addressed in Article 18. Thus ESOA does not see the need for any changes of the Radio Regulations, as portrayed in Option 1 of the draft CPM text.

addressed by the national administration concerned?	ESOA does however support, for the issues referred to in studies under 2b), possible ITU-R studies on best practices, related to national management of unauthorized operation of earth station terminals deployed within territory of concerned administration. Thus ESOA does not see the need for any changes of the Radio Regulations. Furthermore ESOA notes this issue only deals with enforcement of unauthorized ubiquitous earth stations and therefore is not the same issue of earth stations in motion (ESIM) which is covered by Agenda item 1.5.
Question 15: What are your views on the need for additional fixed satellite service allocations in the band 51.4 – 52.4 GHz?	Confidential? –N ESOA concurs with the findings of ITU-R WP4A regarding the needs and agrees with the benefits for additional fixed satellite service allocations in the band 51.4-52.4 GHz. ESOA supports the definition of appropriate regulatory measures allowing new primary allocations to the fixed-satellite service (FSS) in the frequency band 51.4-52.4 GHz (Earth-to-space) limited to FSS feeder links for geostationary orbit use as this opportunity will offer 5 GHz of spectrum in two contiguous segments (3 GHz + 2 GHz), that can be used directly with the downlink band to facilitate, in particular, the deployment of HTS systems. The large amount of contiguous spectrum would offer opportunities for gateways with higher throughput requirements and at the same time may contribute to release spectrum for user terminals in Ku and Ka bands. However, the opportunities for such gateway operation can be limited due to enhanced propagation attenuation in the Q/V bands as well as regulatory measures related to the protection of other services that are currently being developed. Therefore, regulatory measures which could apply should be defined in order to maximize the benefit of this new allocation taking into account propagation conditions while ensuring appropriate protection to existing application operating in the frequency band. ESOA would also like to note that taking into account the benefit mentioned above, it does not support the removal of another FSS allocation if this allocation is approved by the WRC-19.
Question 16: What are your views on Agenda Item 1.8, particularly the need to enhance maritime safety, set against the need to respect the international spectrum allocations and the protection of passive services in adjacent bands?	Confidential? –N ESOA notes that Iridium has now been adopted by IMO as a new provider of communications within the GMDSS. ESOA is of the view that careful consideration should be given to the recognition of the Iridium frequency band 1618-1626.5 MHz in the Radio Regulations and potential consequences for other services in the adjacent frequency bands. Ofcom has highlighted that the radio astronomy community has suffered interference from Iridium for many years and ESOA concurs that this is an important consideration. Similarly, the use of the adjacent band 1626.5-1660.5 MHz by Inmarsat and other GSO MSS operators should not be impacted by the decision to adopt Iridium as a new GMDSS provider, noting that Resolution 359 states that GMDSS satellite systems should operate within the interference environment of existing systems. If the Iridium band is recognized in the RR for GMDSS, a footnote in Article 5 should be added to ensure that Iridium terminals cannot seek protection from interference and hence cannot place new constraints on other services.

Question 17: What are your views on Agenda Item 1.9.1, particularly the need to respect the current integrity of the AIS?	Confidential? – N ESOA does not have a view on this question.
Question 18: What are your views on Agenda Item 1.9.2, particularly the need to take into account current national users in the bands defined by RR Appendix 18?	Confidential? –N ESOA does not have a view on this question.
Question 19: What are your views on Agenda Item 1.10 and do you think that any changes to the Radio Regulations may be necessary?	Confidential? –N ESOA agrees with Ofcom that the evolving requirements for the GADSS do not require any new frequency allocations or other changes to Article 5 of the RR. Furthermore, ESOA favours the adoption of Method A of the draft CPM text over Method B, since it is unnecessary to restrict GADSS functions only to frequency bands that are provided for safety purposes, as is proposed in Method B. ESOA notes the GADSS concept as defined by ICAO has many elements to increase the effectiveness of the tracking of aircraft, and the alerting of the search-and-rescue services in case of aircraft emergency. While most of the objectives of GADSS clearly require a safety allocation, some objectives, such as the timely retrieval of flight recorder data and the routine tracking of aircraft location do not. Such functions may be provisioned, particularly over remote areas, through the use of satellite services that do not have an associated safety allocation (e.g., the FSS and some MSS frequency bands). Restricting GADSS functions only to operate in frequency bands that are provided for safety purposes is likely to limit the further development and provisioning of GADSS within ICAO.
Question 20: What are you views on Agenda Item 1.11, and do you agree that no specific identification for rail communications is required in the Radio Regulations?	Confidential? – N ESOA does not have a view on this question.
Question 21: What are you views on Agenda Item 1.12 and do you agree that there is no	Confidential? – N ESOA support the positions that there is no need for specific identification to ITS in Article 5 of the ITU RR. Therefore, ESOA holds a position that No changes to the Radio Regulations are necessary and supports Method A: No Change to Vol.1 and 2 of RR and Suppress

requirement for specific identification to ITS in the Radio Regulations?	Resolution 237. Furthermore ,we believe that it is necessary to insert a requirement for the design of the ITS devices to ensure they cope with the interference environment created by other co-primary services, as operation for ITS in shared bands should be made under non protected basis. This can be made in the proposed ITU-R Recommendation or, if it is the case, in a WRC Resolution when identifying bands for ITS. Recently during the WP5A meeting in June 2018 it was proposed to study whether it is possible to introduce LTE based V2X ITS technology to the band 5875-5925 MHz. ESOA has a concern here that while in Europe there is an existing regulatory framework which prevents an ITS technology to cause interference to satellite FSS space receivers, this is not the case globally. While APT shares this view for AI1.12, they also state that evolving ITS should not be restricted to, nor exclude, any particular evolving ITS technology including LTE based V2X. Conveniently, Europe is now undertaking studies with an aim to determine whether LTE based V2X is compatible with existing services in the band in response to the EC Mandate. This work will be conducted in SE24 with a very short timeframe to develop ECC Report 101. Finally, the lack of a regulatory framework for the sharing between NGSO and GSO systems creates uncertainty amongst FSS operators in these bands.
Question 22: What are you views on Agenda Item 9.1.4 concerning radiocommunications for sub-orbital vehicles?	Confidential? –N Satellite systems are likely to have an important role in providing communications for sub-orbital vehicles. ESOA therefore supports the ongoing consideration of the regulatory issues around the communication requirements for sub-orbital vehicles and supports further studies into the potential for current and future satellite systems to provide service.
Question 23: What are your views on Agenda Item 1.1, recognising that licensed amateur operators in the UK already have access to parts of the 50 – 54 MHz band?	Confidential? – N ESOA does not have a view on this question.
Question 24: What are your views on Agenda Item 1.2 concerning power limits for MetSat, Mobile Satellite and EESS, and the linkage to agenda item 1.7?	Confidential? –N ESOA does not have a view on this question.
Question 25: What are your views on Agenda Item 1.3,	Confidential? – N ESOA does not have a view on this question.

particularly on any limits required to protect terrestrial use?	
Question 26: What are your views on Agenda Item 1.7 considering spectrum needs for short duration satellites, noting also the potential linkages to Agenda Item 1.2?	Confidential? –N ESOA does not have a view on this question.
Question 27: What are your views on Agenda Item 1.15, particularly on the protection needs of passive services?	Confidential? – N ESOA does not have a view on this question.
Question 28: What are your views on Agenda Item 9.1.6, particularly on the categorisation of WPT and whether WRC action is required?	Confidential? –N ESOA does not have a view on this question.
Question 29: Do you have any comments concerning the Standing Agenda Items, where not covered elsewhere in this document?	Confidential? –N ESOA does not have a view on this question.
Question 30: Are you aware of any specific issues, not covered elsewhere in this document, which are likely to be raised in this part of the Director's Report and	Confidential? – N At this stage ESOA is not aware of any specific issues. However, ESOA considers the Director's Report of high importance and would request Ofcom to urge the BR to release the Director's Report as early as possible. The timing of submission at previous conferences left little time for thorough review and preparation (for contributions) by administrations, which in turn lead to less efficient discussions during the WRC itself.

of which you think Ofcom should be aware?	
Question 31: Do you have any comments on Agenda Item 9.3 considering Resolution 80?	Confidential? – N ESOA does not see the need for any action under this agenda item at WRC-19. ESOA concurs with Ofcom that there has been little activity on this topic in the ITU-R, but experience of previous WRCs has shown that controversial proposals can appear close to the WRC. Therefore, a close watch should be maintained for possible proposals under this agenda item that may appear before or during the conference.
Question 32: What changes to the Radio Regulations have you identified that would benefit from action at a WRC and why? Do you have any proposals regarding UK positions for future WRC agenda items or suggestions for other agenda items, needing changes to the Radio Regulations, that you would wish to see addressed by a future WRC?	Confidential? – N Some MSS satellite operators are developing systems to provide space-to-space communication links to cubesats and other small LEO spacecraft. This would provide the operators of small satellites with a cost-effective means to provide payload and control communications between the spacecraft and ground, utilizing current MSS system capabilities. While the technology is now available for such systems, the current Radio Regulations do not permit such space-to-space links (except on a non-conforming basis under RR No. 4.4). ITU-R Working Party 4C is developing a new ITU-R Report on this topic[1]. ESOA supports a new agenda item for WRC-19 to study the issue and consider making changes to the RR to accommodate space-to-space links in existing MSS allocations. Furthermore, ESOA is aware of some ideas from parts of the terrestrial mobile community for new agenda items seeking to identify more spectrum for 5G in parts of the C-band spectrum and the 28 GHz band. ESOA is alarmed to see such proposals, considering that similar proposals have been made before and rejected before. We support that Ofcom retains its opposition to such proposals.

[1] See Annex 8 to Document 4C/417