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ACMA Consultation: IFC 25/2021 - Draft frequency coordination requirements review work program - consultation 25/2021 – CSIRO Comments

Dear Manager,

CSIRO thanks ACMA for the opportunity to comment on the ACMA Consultation: IFC 25/2021 - Draft frequency coordination requirements review work program - consultation 25/2021 **.**

CSIRO is responsible for the management and operation of the Canberra Deep Space Communication Complex (CDSCC) and other NASA facilities in Australia under a government to government treaty between Australia and the USA as well as a Cooperating Agency Agreement between CSIRO and NASA. CSIRO is also responsible to manage the operations of the European Space Agency (ESA) space research activities in Australia, including the operation of the Space Research Services (SRS) earth station at New Norcia in W.A. under the provisions of a long-standing Treaty between the Australian government and ESA. CDSCC and New Norcia are both integral and vital parts of the respective global networks represented as NASA's Deep Space Network (DSN) and ESA's tracking network (ESTRACK), respectively. Each provide ongoing and invaluable contributions to international space exploration. They both comprise substantial earth station assets developed over 50 years of cooperation including very large antennas at the NASA CDSCC facility and ESA New Norcia facility, enabling tracking of a very large and growing multitude of international Near-Earth and Deep-Space space research missions representing spacecraft assets in excess of $35 Billion dollars. Additionally, both NASA and ESA continue to invest substantial sums of money in expansion and upgrade projects to maintain a world leading space research and exploration capability in Australia. The capability for these stations to continue their space research work, under local management by CSIRO, is critically dependent on the ongoing interference-free access to the requisite radiocommunications frequency spectrum, as has been the case for over 50 years.

CSIRO thanks ACMA for this invitation to comment on the draft work program presented by IFC 25/2021 related to reviewing over the coming 2021/2022 period a number of nominated Radiocommunications Assignment and Licensing Instructions (RALI's). While it is noted that this IFC 25/2021 simply foreshadows a planned review program for those RALIs presented in Table 1 of the consultation document, CSIRO is pleased to submit below comments related to the proposed work program, along with some additional items for consideration, as also invited by ACMA.

CSIRO Comments.

In summary, CSIRO agrees with ACMA's draft review work program presented in Table 1 of the consultation document, with a focus on those RALI's of relevance to the Space Research Service.

Additionally, CSIRO would like to offer some comments as further constructive contributions as follows:

1. RALIs of relevance to CSIRO's space research service stations at ESA's New Norcia and Canberra Deep Space Communication Complex (CDSCC) at Tidbinbilla, ACT:

- CSIRO agrees with the proposed review program presented in Table 1 of the consultation document for the following RALI's of relevance to the above SRS stations.
    - RALI FX03 – no comments at this stage.
    - RALIs MS38, MS43 and MS46 – refer comments below.

2. In relation to the proposed review of these RALIs, CSIRO would like to offer the following additional thoughts related to the present and proposed structure of these RALIs, as follows:

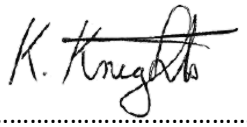
- RALI MS38. CSIRO notes the significant changes implemented in RALI MS38 between versions 6 September 2019 and the current version dated October 2020. While the IFC 25/2021 consultation document refers in a couple of places (Table 1 and page 7) to the applicability of MS38 to the range 25.5 – 30 GHz, CSIRO assumes that the latest version (October 2020) is the applicable version under this IFC 25/2021 review, applying to only the 27.5 – 30 GHz band. The changes of interest to CSIRO between these versions relates to the consequential deletion of the SRS protection criteria provided in the earlier September 2019 version. Notwithstanding, CSIRO understands that these protection criteria (particularly the HCIS coordination zone previously presented in MS38, Appendix 5) are now incorporated into the current version of MS46 (dated November 2020), with a substitution of the HCIS coordination zone with a simplified 200km coordination around both SRS earth station sites. This is (CSIRO understands) consequential to ACMA now licensing the FSS earth stations in the adjacent 27.0 – 27.5 GHz band as an AWL license, which imposes on FSS the licensing and sharing obligations and criteria defined in MS46. CSIRO can therefore support this simplification being proposed as a sensible way forward. As a suggestion, ACMA might consider including the stated 200km coordination zones centred on New Norcia and CDSCC (in Clause 2.2.4) in an Appendix to MS43 as a geographic representation of the 200km coordination zone (refer also to the comments below re MS43).
- RALI MS43. CSIRO looks forward to participating in the proposed review of RALI MS43. To assist in the efficient progression of this review, CSIRO encourages as a concomitant activity the further progressing of the December 2019 agreed amendments of MS43. These included the addition of CDSCC in order to correctly reflect the application of MS43 to both deep space stations at New Norcia and CDSCC (Tidbinbilla) as the subject SRS bands and associated coordination criteria similarly applies to both stations. It also included (amongst other things) the agreed addition of the 22GHz band. On another matter, CSIRO does not support the foreshadowed removal and transfer of the current 26GHz band sharing criteria and methodology in MS43 to MS46. While the proposed MS46 correctly refers to the need to "coexist with" Space research service (SRS) earth stations operating in the range 25.5 – 27.0 GHz", the methodology for coexistence should remain in MS43 as this has been (and should remain) the ultimate reference for the continued sharing of other services with SRS in the multiple bands within which SRS operates. Its purpose is clearly articulated as providing coordination procedures for other services to apply in their determining acceptable sharing arrangements as a precursor to licensing. The inclusion of the fundamental rules in Clause 2.2.4 of MS46 "Coexistence with space research service (SRS) earth stations" providing broad geographic and TRP limitations and the Clause 4.3.1 Table 10 "SRS exclusion zones" (this might be more accurately titled "AWL exclusion zones around SRS stations") can be appropriately complemented with a cross-reference to RALI MS43, which provides the substantive technical study methodology and criteria (including agreed exclusion zones in multiple bands including 26GHz (Appendix D)) for prospective sharing/licensing of other services (including AWL) to ultimately determine acceptable coexistence with SRS in 26GHz and other bands.

- RALI MS46. CSIRO, in providing the above comments, notes the purpose of MS46 as being to "describe the necessary steps for:
    - administratively issuing area-wide apparatus licences (AWLs) in the 26 GHz (24.7-27.5 GHz) and 28 GHz (27.5-30 GHz) bands (referred to collectively as the 26/28 GHz bands), and
    - the coordination of devices operated under these licences."

Accordingly, CSIRO believes that the inclusion of a cross reference in RALI MS46 pointing to RALI MS43 as the ultimate technical reference for determining acceptable sharing coexistence with SRS within the prescribed 200km radius coordination zones around New Norcia and CDSCC stipulated in RALI MS46 would be the, simplest, unambiguous and appropriate structure and ensures all possible coexistence considerations are addressed, including the defined exclusion zones around these sites provided in RALI MS43, Appendix D. Finally, CSIRO believes there may be advantage in considering a review of both RALIs MS43 and MS46 concurrently within the one public consultation.

Thank you for the opportunity to consider and comment on the ACMA IFC 25/2021.

Yours Sincerely,



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