

The Manager
Economics Advisory
Australian Communications and Media Authority
PO Box 13112 Law Courts
Melbourne Victoria 8010

ACMA Consultation: - Proposed Changes to Apparatus Licence Pricing Structures
CSIRO Comments

Dear Manager, Economics Advisory Section,

CSIRO thanks ACMA for the opportunity to comment on the ACMA Consultation Document "[Proposed changes to apparatus licence pricing structures](#)" dated March 2023.

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 similarly 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. Therefore CSIRO, in addition to its role as manager of CDSCC, in making this submission also represents its partner space agencies (NASA and ESA) for whom it provides these Treaty level services at CDSCC and New Norcia, respectively.

Additionally, CSIRO also operates a number of additional Australian space science facilities within Australia, which require apparatus licenses to enable their operations under similar non-commercial research funding and operations constraints.

CSIRO has reviewed the consultation document titled "[Proposed changes to apparatus licence pricing structures](#)" dated March 2023 and submits the following responses to the nine Questions presented within this document inviting stakeholder responses. These responses are presented as a constructive contribution in the spirit of our continued close, collaborative and mutually beneficial partnership we have enjoyed over many decades in providing the ongoing protection and assurances for the Space Science Service operations at CDSCC and New Norcia. ACMA has continued as a key regulatory participant and Treaty partner in enabling these global space science exploration endeavours, both near-Earth and Deep Space, to continue to be viable through licensing which to date has been affordable and enabled the conduct of these challenging research operations.

CSIRO Comments.

CSIRO appreciated the opportunity to submit responses to the Questions presented in the ACMA consultation document. The CSIRO comments are as follows:

Question 1

Do you have any comments on the proposed usage of the ABS dataset 'Estimated resident population, Significant Urban Areas' as the basis for the framework to update apparatus licence taxes annually using changes in geography-specific population?

CSIRO supports in principle the proposed methodology of adjusting the annual apparatus license tax based on population density change, assessed at an increased granular level of geographic classification. The one caveat to this support is that, with the adoption of the ABS's Significant Urban Areas (SUA) in defining geographic areas, this does not detrimentally change the density classification of the Space Research Service space tracking stations. For example, New Norcia remains as remote-density and not (by some unintended quirk) be subsumed into the Perth SUA. Further, in adopting this increased granularity, given the Canberra Deep Space Communication Complex (CDSCC) is located in a valley, in a stable, low density rural setting, (as agreed and managed by the Australian government in the site selection) it should be reclassified as a remote-density cell (excluded from the Canberra SUA). This is consistent with its sparsely populated environs and its careful location within a valley to assure its RF isolation from Canberra. This proposal is consistent with the ACMA's stated intention in using the ABS SUA's of "Adjusting each normalisation factor annually on a more granular level by changes in area-specific population for each density classification"

Question 2

Do you have any comments on the indicative timing of annual updates to apparatus licence taxes using changes in geography-specific population?

No comments.

Question 3

Do you have any comments on the proposal to update the annual licence tax amount for television outside broadcast network licences and the proposed amendment to the Determination?

Not applicable.

Question 4

Do you have any suggestions on how the ACMA could introduce additional measures to further the pricing of licences for varying levels of interference or examples of mechanisms that you think the ACMA should consider for implementation?

CSIRO considers that any implementation of this mechanism being considered by ACMA to financially encourage the adoption of measures towards increasing the efficient use of spectrum (and decrease spectrum denial) is not appropriate for the non-commercial, scientific, technically challenging operations at CDSCC and New Norcia and should not be applied to these Space Research Service operations licenses. This should also include the other CSIRO space science and radio astronomy sites.

The stringent protection requirements for the SRS are a critical and immutable operations-enabling pre-requisite, requiring a blanket safeguard for the SRS stations to satisfy their challenging objectives of communicating with scientific spacecraft transmitting over inordinate distances. The fundamental physics behind the enabling of these remarkable scientific exploration achievements demands relatively high

transmitter powers and technologically advanced low noise receivers, which can only operate in very low interference environments necessitating high levels of RF protection. The Treaties between Australia and the US government and European Space Agency for the continued successful of exploration of our solar system (and beyond) was based on Australia's commitment to enable and protect these operations. Accordingly, Australia worked with their international space agency partners (NASA and ESA) to mutually agree the remote siting of the tracking stations (around 50 years ago) at their current locations. The ACMA (as a cooperating Australian government authority) has closely and steadfastly worked co-operatively since inception to assure the requisite, technically challenging operations environments at the tracking station sites have been met.

As these are non-commercial exploratory science ventures based on long standing international agreements and good will, any outcome to these proposals should ensure the avoidance of penalising these historic cooperative ventures by imposing effectively a "loading" on the apparatus licenses for the requisite transmitter and receiver characteristics essential for these continued successful exploration Space Research activities. Accordingly, CSIRO requests that the ACMA not include the Space Research Service operations at the Canberra Deep Space Communication Complex (CDSCC) and New Norcia sites. The other CSIRO space science sites should similarly, also not be included in this ACMA initiative. To do so could unintentionally penalise these CSIRO space science activities operating in this unique, challenging, but essential science-driven RF operations environment.

Question 5

Do you have any suggestions on which licence types and sub-types should be considered by the ACMA for implementation of mechanisms that price for varying levels of interference?

As explained under question 4 (above), the unique nature of the non-commercial, scientific exploration operations requires stringent and challenging technology that has been refined over many decades to achieve the highest level of spectrum usage efficiency. The extreme challenges of communicating over vast distances in deep space and near-Earth dictates that high transmitter powers be used on a case-by-case basis (when necessary) and that the terrestrial RF environment must be maintained at a stringently enforced, (ITU-R defined) low interference level. Accordingly, CSIRO considers that the SRS and SOS remain excluded from consideration under this ACMA initiative. This exclusion should also extend to the other space science research activities conducted at various CSIRO sites.

Question 6

Do you have any comments on the potential extension of the low-power and micro-power discounts to additional services?

No comment.

Question 7

Do you have any suggestions on how and where the ACMA could introduce interference protection pricing mechanisms to the apparatus licencing framework?

No suggestions.

Question 8

Do you have any suggestions for additional pricing measures the ACMA could consider to encourage spectrally efficient technology deployments?

No suggestions.

Question 9

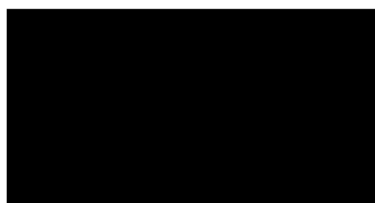
Are there any other comments that you would like to give relating to the proposals in this paper or other aspects of the apparatus licence tax regime?

No further comments.

Conclusion.

In conclusion, CSIRO is pleased to submit these comments for ACMA consideration. CSIRO thanks ACMA for the opportunity to review this consultation document and present our thoughts/concerns which we are happy to submit for your contribution and further discussion as necessary.

Yours Sincerely,



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