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Economics and Market Analysis  
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**ACMA Consultation :[IFC 07/2020](#) – Implementation of the Spectrum Pricing Review  
Proposed guidelines and focus areas for change.**

Dear Manager,

CSIRO welcomes the opportunity to comment on the ACMA consultation [IFC 07/2020](#) “Implementation of the Spectrum Pricing Review Proposed guidelines and focus areas for change”.

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 dozens of international Near-Earth and Deep-Space 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 access to the requisite radiocommunications frequency spectrum, as has been the case for over 50 years.

Concerning the ACMA’s invitation to comment, CSIRO (as a current licensee and operator) is pleased to hereby submit the following comments, against the specific questions presented in the consultation document. CSIRO’s inputs, presented in red text, are as follows:

### Issues for Comment

The ACMA invites comments on the issues set out in this consultation paper:

#### Question 1

Do stakeholders have any views about the status of the ACMA’s role in implementing the recommendations of the Spectrum Pricing Review? **No. Status noted.**

#### Question 2

Do stakeholders have any views on the legislative and policy environment that may be relevant to the pricing issues outlined in this paper? **No.**

### Question 3

Do stakeholders have comments on the ACMA's draft spectrum pricing guidelines including the relevant spectrum pricing decisions, guiding principles and process for changing prices? **No.**

### Question 4

Does the tax formula generally provide a solid base for incentivising the efficient use of spectrum? **Yes.**

### Question 5

Do stakeholders have views on:

- > prioritising the features of the tax formula and other taxes by considering different focus areas. **No comment.**
- > the criteria for prioritising the focus areas. **No comment.**
- > other matters or focus areas that should be considered as part of the ACMA's work program. **In considering opportunity cost, the immense value to society of spectrum used for the science services must be duly considered in any future review under Focus Area 3.**

### Question 6

What are the relevant price points to undertake an opportunity cost analysis of taxes for services above 5 GHz? Examples of relevant information may include: **CSIRO has no comments concerning the spectrum price points shown in Table 1, page 24, titled "Local Weighting". Concerning this "Local Weighting" table (Table 1 in the consultation document), CSIRO notes that the price points in this Local Weighting table are the same as that provided in Table 34 (page 38) of the ACMA's [Apparatus License Fee Schedule](#) dated 5 April 2020. Accordingly, there does not appear to be a proposal (or identified need) in this public consultation document to change these price points, but rather an invitation to identify a need for change. CSIRO does not propose any change to the price points.**

**CSIRO notes that the Local Weighting table is not overtly cross-related in the document to the apparatus pricing schedule for the Space Research Service (as currently presented on page 23 of the ACMA's [Apparatus License Fee Schedule](#) ). Also, CSIRO notes the "Opportunity Cost Pricing in High Frequency Satellite Bands (Ka and above)" included on page 49 of the consultation paper and assumes that these provisions in Appendix D will continue to apply to both the NASA CDSCC and ESA New Norcia Earth stations. Accordingly, to reiterate, of relevance and importance to CSIRO is the continued application of the apparatus license fees presented on page 23 of the ACMA's [Apparatus License Fee Schedule](#) "Division 8A: Space system licenses", Table 26: Annual License Tax (\$ per kHz), of the ACMA's [Apparatus License Fee Schedule](#), dated 5 April 2020.**

- > how prices for products and services have changed over time
- > how prices of radiocommunications equipment have changed over time relative to spectrum prices
- > comparisons with international auctions results or administrative spectrum prices.

### Question 7

How can taxes be designed to account for multiple devices? Under what circumstances do stakeholders believe that one tax should relate to many devices and/or there should be 'discounts' for multiple devices authorised under one licence? **The paper identifies scope for the application of a single license for multiple Space Research Service antennas located on a single Earth station site (say, within a 1 or 2 km area) such as ESA's deep space tracking station at New Norcia, WA and the Canberra Deep Space Communication Complex (CDSCC) at Tidbinbilla, ACT. As recognised in this public consultation document (page 18), there is virtually no added denial of service or opportunity cost – to quote on page 18, "That is, individual antennas do not significantly add to the spectrum denial.". Further, as these stations are providing a science service (benefit to humankind) non-domestic/non-commercial science and research operation, the application of a single apparatus license to service multiple antennas at each station would also serve as an appropriate and positive research partnership gesture and contribution by the Australian government as the signatory to the global space research Treaty agreements under which these stations operate in Australia. CSIRO supports this single apparatus license for multiple antenna concept as a fair and appropriate licensing initiative.**

### Question 8

While the current low power discount provides for a significant reduction in taxes of 90 per cent, the ACMA is interested in considering further incentives to promote the greater sharing of spectrum. **No comment.**

Do the lower potential denial areas of different services provide a case for considering different or additional low power discounts? In responding, please provide:

- > examples of these services and the denial characteristics of these services
- > the information that may be required for the ACMA to be able to apply a discount
- > views on whether such approaches can be applied across different licence types and bands.
- >

### Question 9

Do stakeholders have comments on: **The monitoring and adjustment proposals appear fair and appropriate.**

- > the proposal to monitor bands for potential changes in taxes and the balance and precision required in monitoring and pricing spectrum?
- > the use of inflation to keep apparatus licence taxes contemporary and whether there are alternative approaches?

#### Question 10

Do current spectrum locations or frequency ranges remain appropriate? If not, what changes should be made and why? **They appear to be simple, fair and appropriate, with no identifiable reasons for change.**

#### Question 11

What factors should the ACMA consider in determining new spectrum locations or frequency ranges? **No comment.**

#### Question 12

Do the different tax rates associated with different spectrum locations or frequency ranges influence decisions about deploying radiocommunications equipment? **No comment.**

#### Question 13

How does the value of spectrum change across geographic locations? **The value of spectrum across geographic locations varies according to demand and user density (and inherent opportunity cost considerations). Accordingly, the current defined geographic density zoning is considered appropriate and fair.**

#### Question 14

The ACMA also seeks views from stakeholders about:

- > should density areas be refined for different services/bands?
- > rather than having density areas, do models of congestion (like that used in the 400 MHz work) potentially better reflect demand for services and the value of spectrum? If so, what features would such a model have?
- > whether different pricing constructs, such as \$/MHz/Pop for different licence types should be considered?
- > whether there should be parity in pricing arrangements between services like commercial broadcasting taxes and open narrowcasting taxes?
- > whether there are other services where the ACMA should be considering providing greater parity in pricing?

**As stated above, the current system is considered practicable, simple and fair. It is easy to administer and appropriately applies spectrum license taxes according to the geographic density and supply/demand principles with inherent incentives for the migration of operations to the commercially less attractive higher frequency bands. This method encourages the use of the higher frequency bands and has incentivised the remote location of Earth stations.**

#### Question 15

Do stakeholders have views on:

- > the current pricing arrangements for scientific-assigned licences for new technologies?
- > the proposal for new short-term scientific-assigned licence trials and alternative pricing proposals?

**No comments.**

#### Question 16

Do these proposals promote transparency and ease in calculating taxes? **CSIRO finds the current method relatively easy, given the large range of clients and applications it is required to cater for.**

Thank you for the opportunity to consider and comment on the ACMA IFC 07/2020.

Yours Sincerely,



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