



Australian Government
Department of Defence

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ACMA IFC 22/2015 03 August 2015

The Manager
Spectrum Planning Section
Spectrum Infrastructure Branch
Australian Communications and Media Authority
PO Box 78
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Dear Mark,

ACMA CONSULTATION ON BEYOND 2020 – MOBILE BROADBAND STRATEGY

1. The Department of Defence (Defence) is pleased to provide the enclosed responses to the questions raised by the above ACMA consultation paper.
2. Defence is generally supportive of the proposals and has a number of suggestions that will be strategy enablers for the assessment of Highest Value Uses (HVV) and Band Replanning. In particular, the status accounting for HVV Assessments and Band Replanning Projects should be integrated, and linked to frequency bands in the ARSP. These suggestions are further described in Annex A.
3. If you would like to discuss any aspects of the Defence response, my point of contact on this issue is Alex Wright on (02) 6144 4561 or alexander.wright1@defence.gov.au.

Yours sincerely

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Enclosure:

1. Defence Responses to the Beyond 2020 Consultation Paper

Defence Responses to focus questions raised in the Consultation Paper

Q1. The ACMA seeks comments on these assumptions. Do you agree? Why/Why Not?

Defence generally agrees with the ten assumptions listed in the ACMA Mobile Broadband (MBB) Strategy paper. Defence wishes to emphasise several aspects of these assumptions that are of particular interest to Defence. These are listed in the following table, against the associated assumption number.

1	The current highest value uses (HVU) of existing bands specified in the Australian Radiofrequency Spectrum Plan (ARSP) is not immediately apparent. Annex A provides some improvement suggestions for the accessibility and transparency of this information.
3	Defence demand for non-MBB (and MBB) spectrum is also increasing.
6	The majority of spectrum use by Defence is non-MBB (eg radar, HF/VHF/UHF voice/data communications, navigation, weapons, etc).
7	Certainty of tenure and technology flexibility is also key to non-MBB use. These factors are enablers for investment and business continuity, particularly in systems expected to be in-service for many years, such as Defence capabilities.
8	Fundamental physical constraints of radiofrequency propagation remain a key consideration for most Defence users of spectrum. Defence has additional international harmonisation constraints for interoperability with allied and other partners.
10	Defence recommends that the blend of technologies for satisfying capacity (eg backhaul, optical/hybrid WiFi, etc) be estimated and included future editions of the FYSO. This would assist in highlighting alternatives for spectrum users (rather than the reflex action of seeking additional spectrum for MBB).

Q2. What factors should be taken into account in assessing the highest value use of a spectrum band? What particular costs and benefits should be taken into account? Is there a recognised measure of these costs and benefits?

Currently, Defence sees the following factors being important in a sound assessment of HVU. These are described in further detail in Annex A.

1. Clear and well-communicated terminology.
2. Documented assessment guidelines that are generally accessible.
3. Current status accounting and reporting of HVU status for all bands in the ARSP.

Additionally, Defence recommends an integrated framework be used to incorporate public good uses of spectrum, into the current dominant economic models.

It should also be recognised that if a specific application (such as MBB) is identified as the highest value use of a spectrum band, it does not necessarily follow that this application will require exclusive use of an entire spectrum band at all times in all geographic regions. Where

possible, the non-HVU applications should be able to access this spectrum in order to maximise the overall utilisation of the band.

Q3. The ACMA seeks comments on these strategies. In particular, comment is sought on the stages of band replanning and considerations for advancing through these stages.

Defence supports the five identified strategies. Defence sees the strategy enablers described in Annex A as being necessary for success. Status information on band replanning needs to come from a single point of truth (database) that is linked to ARSP reference data.

Strategy 2: Transparent spectrum management planning process: Defence suggests that:

1. A HVU Assessment should be a prerequisite for entering Stage 0.
2. The stages of band replanning should be integrated with the HVU Assessment process, discussed below.

Defence suggests that status accounting and reporting on ARSP bands integrate the status information from work program projects (MBB and non-MBB) and HVU assessments:

1. It is assumed that HVU assessments will occur prior to a band entering the monitoring stage. Additionally, there should be a “completed” stage to indicate completion of a “recent” replanning project/activity, for a given band. This holistic view is indicated by the suggested stages in the expanded scale below:

Stage -4: HVU Assessment triggered (refer Annex A1.2 Prerequisites)

Stage -3: HVU Assessment commenced

Stage -2: HVU Assessment in progress

Stage -1: HVU Assessment completed

Stage 0: Monitoring

Stage 1: Initial investigation

Stage 2: Preliminary replanning

Stage 3: Re-farming

Stage 4: Completed replanning (Project Reference)

2. Suggestions for status accounting on HVU Assessments are given in Annex A.

Q4. The ACMA seeks comments on the proposed work program. Are there any frequency bands or other projects which should/should not be included in the current work program? Why/Why not?

Defence does not see any amendments to the frequency bands in the proposed work program, required at this point in time.

ANNEX A – STRATEGY ENABLERS

Defence sees the following as key enablers of the MBB Strategy and other spectrum reform initiatives.

A1. Highest Value Uses –Consolidated Body of Knowledge

The ACMA *Principles for Spectrum Management* refer to the *highest value use or uses*. However, the MBB Strategy paper simply refers to *highest value use*. Guidance information for assessments should highlight that the goal is not to simply focus on a single use that is assessed as highest value, but rather the overall use of a particular band. The assessment framework should be versatile enough to define a number of uses of a spectrum band that results in an overall higher value than the individual values of separate uses of that band.

To position for success, a consolidated Body of Knowledge should be developed. This should articulate the necessary terminology, assessment method, recording and reporting arrangements.

A1.1 Highest Value Uses - Terminology. We need to clearly distinguish between terms that are not well defined, or commonly misunderstood, such as those listed below.

	Term	Example
1	Use (of spectrum)	The Defence of Australia
2	User (of spectrum)	Department of Defence, Border Force, etc
3	Highest Value Use (s) (HVU)	A set of uses (ranked by value) for a particular spectrum band in the ARSP.
4	Monetary cost	Dollar value. For Defence, planned costs of capabilities (including spectrum) are listed in the White Paper and the Defence Capability Plan. The “sunk cost” component for many Defence systems is considerable, and is an indicator of a latent penalty, should significant reconfiguration of Defence systems be required, due to spectrum allocation changes.
5	Non-monetary cost	Other costs to a customer, eg lost time, forgone opportunity, etc.
6	Economic Value	Economic value if a portion of Government spectrum were to be reallocated for commercial use.
7	Public Good Value	Public good value of having designated portions of spectrum for Government use, for example Defence of Australia.

A1.2 Highest value Uses – Assessment Method

Prerequisites

We should identify the triggers that can initiate a HVU Assessment. These could include:

1. Ministerial direction

2. Demand evidence in the Five-year Spectrum Outlook
3. Other mechanism.

Inputs

Make explicit the various types of costs and benefits taken into consideration, during a HVU assessment.

Process

Related knowledge and guidance should be gathered into a consolidated body of knowledge to permit more formalised HVU assessments. The process documentation should describe what inputs were used and how the assessment produced the output items required for status accounting and reporting (following paragraph).

Outputs

HVU status data should be produced, that includes:

- i. Candidate uses and associated users.
- ii. Date of assessment (point in time).
- iii. Projected validity of the assessment (time period, eg 5 years)
- iv. Re-evaluation point (point-in-time)
- v. Summary of how the Total Welfare Standard has been applied for a particular assessment of HVU.
- vi. List the relative value of candidate uses, for comparison and evaluation purposes, in order to support the use that is chosen as the current HVU. This would show the HVU in context, and have the advantage of producing a “running order” as a basis for future assessments of HVU. An appropriate ranking scale should be selected to represent the relative value of the uses (eg High, Medium, Low or a simple numeric scale, eg 0-5).
- vii. Identify the particular use that is assessed as the HVU.

Reporting

The above HVU status data should be made generally accessible to spectrum stakeholders. Standard content and format for a formal HVU Assessment Report should be developed. These reports should be produced, when HVU Assessments are undertaken.

A1.3 Highest Value Uses – Linkage to ARSP Data

The current assessment of the highest value use of a particular spectrum band should be more visible to spectrum stakeholders. This information could be presented as annotations to the specifications in the Australian Radiofrequency Spectrum Plan (ARSP).

In practical terms, the data definition could be implemented in the successor edition of ARSP 2013, with data values (indication of Highest Value Uses (HVU) for Band) being gradually populated, during the course of continuing analysis and review of spectrum use. Initial bands to be tagged should be those of interest for MBB.

Ideally, this should be implemented in a database, containing ARSP Reference Data (Table of Allocations).

A2 Stages of Band Replanning

A2.1 Stages of Band Replanning – Linkage to ARSP Data

In addition to the status accounting of HVU described above, accurate status accounting of the stages of band replanning is required, for sound decision-making and implementation of changes. Ideally, this information should be linked to a database version of the ARSP.

A3 Advantages of the above Enablers for the MBB Strategy

Implementing the above proposals, would:

- Demonstrate alignment with the Spectrum Review principles of providing flexibility, certainty and transparency.
- Provide a consistent corporate memory for decision-making.
- Contribute to stakeholder engagement.
- Greatly assist the refinement of HVU, across the bands in the ARSP.
- Improve the responsiveness of decision-making in particular scenarios, based on the HVU.
- Facilitate the shift to a contingency approach for more rapidly assessing HVU and migrating actual use to HVU.
- Provide process integrity for HVU assessments and band replanning.