



Australian Government
Bureau of Meteorology

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29 April 2016

The Project Manager
Spectrum Reform
Department of Communications and the Arts
GPO Box 2154
CANBERRA ACT 2601

By email: spectrumreform@communications.gov.au

Dear Sir/Madam,

**Submission on Legislative Proposals Consultation Paper,
Radiocommunications Bill 2016**

Please find attached a submission from the Bureau of Meteorology containing its response to the proposals put forward in the above paper. The Bureau appreciates the opportunity to present its views as part of the public consultation process, and looks forward to making more detailed contributions in subsequent stages of the Spectrum Reform.

Yours sincerely,

Paul Hettrick
RF Spectrum Manager

1. Objects and span

In the Proposed approach the following is stated:

It is proposed that the stated object of the Bill will be to promote the long-term public interest derived from the use of radiofrequency spectrum by:

- facilitating efficient, flexible and innovative allocation and use of spectrum; and
- providing arrangements for the provision of spectrum for public or community purposes.

The following paragraph expands on the second dot point:

It is intended that explanatory material to the legislation will indicate that public or community purposes will include use such as for defence or national security, law enforcement, meteorology and the provision of emergency services. The approach will not limit any particular public or community purpose.

The Bureau is encouraged to see the proposal to explicitly include public or community uses in supporting material to the legislation. The key issue however for such public good and non-commercial users of spectrum, including the Bureau, will be the actual "arrangements for the provision of spectrum", which presumably will be outlined in the supporting material that is yet to be drafted and made available for public comment.

5. Radiofrequency planning

The Bureau is pleased to see that the importance of providing spectrum for public and community uses are recognised in the last paragraph of this section:

It is proposed that the Bill will continue to specify that plans may provide for parts of the spectrum to be reserved for the provision of public or community services.

6. Licensing of spectrum

The Bureau is of the view that the current arrangement whereby "market mechanisms, alongside administrative and commons approaches" are used to manage spectrum, should not be abandoned in favour of an entirely market-based approach. There will remain the need for an administrative or equivalent mechanism to provide for the provision of spectrum for public good purposes. As the Bureau has outlined in previous submissions to the Spectrum Review, a purely market-based approach is not viable for public good and non-commercial users of spectrum, particularly for applications in meteorology and Earth observations where specific frequency bands are fixed by nature and alternatives do not exist or are sub-optimal. A purely market-based approach to spectrum licensing is only feasible for applications where a business model provides a tangible and financially

viable return from that spectrum. By definition, this is not the case with spectrum used for public good.

Under the proposed approach, licences will be required to specify core conditions, including:

- parts of the spectrum;
- geographic information (area/site); and
- payment of any applicable charges (including taxes).

The Bureau is of the view that it is not possible to make licences fully independent of the associated application(s) that may make use of the spectrum. The ideal concept of a generic licence would indeed allow spectrum to be traded in a way similar to commodities, but would ignore the realities of spectrum use - realities that constrain spectrum use in ways not shared with commonly traded commodities. The often used analogy of land use could be applied to demonstrate the issue: Even though land can be bought and sold on the market, the zoning of the land dictates what it can be used for. Consideration has to be given to neighbouring land owners and their ability to utilise their property without the imposition of undue interference or constraints. This principle also applies to spectrum where applications utilising bands that are being traded will have differing emissions characteristics that may adversely affect public good applications, including safety-of-life, operating in adjacent bands. The current band plan system for spectrum licences specifies such conditions for the protection of adjacent services, and a similar method would need to be incorporated into the new legislation in order to protect and provide certainty for applications operating in bands adjacent to traded spectrum.

The Bureau is of the view that the core licence conditions, particularly for traded spectrum, would need to be expanded beyond those listed above to include many other crucial parameters necessary to determine potential impact on services in adjacent bands, including:

- applicable antenna characteristics including radiation pattern(s), direction, tilt, height;
- modulation scheme(s) utilised;
- transmit power; and
- unwanted emissions outside of the licensed frequency range.

These parameters, some of which are part of the existing licensing system, would need to be updated as the applications utilising traded spectrum change. Their purpose is to specify to potential users of the traded spectrum the constraints within which their application must operate, and the potential constraints that will be imposed on users of adjacent bands.

The concept of guard bands will also have to be incorporated into the new licensing regime.

12. Interference management

The proposed approach appears to move the function of interference management from the ACMA to the licensee (the victim). The process of monitoring and determining sources of interference, particularly intermittent sources, can be lengthy and involves specialised skills and costly equipment not necessarily available within most organisations (both public and private). The first, most difficult and resource consuming step in resolving an interference issue is to determine the source, particularly where it is produced by an unlicensed (class licensed) device and the owner/operator is unknown. The approach being proposed is to only engage the ACMA as a last resort. However, for the Bureau, the first and only option is to defer to the ACMA for assistance with interference management, as we do not have the in-house capability to determine what and who is responsible for the interference.

The implication of this proposal is that the cost of interference management currently born by the ACMA gets passed to the consumer. This may be the case with commercial users of spectrum as they have a business model through which to pass such costs, particularly where they will have to resort to in-house or outsourced interference management under the new legislation. The Bureau does not have a business model through which it can recoup such costs in providing services to the public.

The paper states that "Stakeholders have expressed concern regarding the difficulty in resolving disputes." A preferred solution from the Bureau's perspective is to increase the resources available to the ACMA to perform interference determination and resolution, rather than devolving responsibility to the licensees with the apparent aim of reducing the ACMA's operating costs.