

EXPLANATORY STATEMENT

Issued by the Australian Communications and Media Authority

Radiocommunications (Mid-West Radio Quiet Zone) Frequency Band Plan 2011

Radiocommunications Act 1992

Purpose

The *Radiocommunications (Mid-West Radio Quiet Zone) Frequency Band Plan 2011* (the Band Plan) establishes a radio quiet zone (RQZ) in the Mid-West region of Western Australia.

Legislative Provisions

The Band Plan is made under section 32 of the *Radiocommunications Act 1992* (the Act) which provides that the Australian Communications and Media Authority (ACMA) may, by written instrument, prepare frequency band plans, each relating to one or more frequency bands.

A frequency band plan is a legislative instrument for the purposes of the *Legislative Instruments Act 2003* (the LIA).

Background

The ACMA established the Mid West RQZ on 11 April 2005 with the introduction of Embargo 41. The RQZ aims to maintain the 'radio-quietness' of a site in remote Western Australia, near Boolardy Station, around 300 km North West of Geraldton. The area has very low levels of radiofrequency energy because of its low population and remote location.

The purpose of the RQZ is to facilitate the development and use of new radioastronomy technologies at that location, and support Australia's bid to host the Square Kilometre Array (SKA). In the period since 2005, the Murchison Radioastronomy Observatory (MRO) has been developed at the centre of the RQZ.¹ Major national and international radioastronomy projects are already under construction at that site.

A frequency band plan made under section 32 of the Act must set out the purpose or purposes for which the frequency band or bands mentioned in it can be used. The use of a frequency band may include the reservation of spectrum in that band for the prevention or control of interference to radiocommunications.

The enhanced protections introduced by the Band Plan are designed to provide adequate protection for radioastronomy activities in the RQZ to support the development of the premier radioastronomy facility in the world, while imposing the lowest feasible regulatory burdens and compliance costs on other spectrum users in the region.

Operation

This Band Plan sets out the purposes for which the frequency bands mentioned in it can be used. These purposes primarily relate to radioastronomy services. The Band Plan also provides that additional services that operate in the inner zone of the RQZ, are to be taken to be secondary services to radioastronomy services.

Finally, the Band Plan requires that in general, applicants for apparatus licences after the commencement of the Band Plan must consult with the MRO before applying for that licence.

¹ The site is located in the Murchison Shire near the Boolardy station, centred 26.704167 South, 116.658889 East (GDA94 datum).

Consultation

Section 17 of the LIA requires the ACMA to be satisfied that any consultation it considers to be appropriate and that is reasonably practicable to undertake has been undertaken before making a legislative instrument. Section 33 of the Act also requires that a Gazette notice explaining the frequency band plan be published and a period of at least one month be provided for public comment.

On 8 October 2010, the ACMA commenced a public consultation process to explore a proposal to strengthen existing measures to protect the Mid West RQZ around the MRO. The ACMA made a media release and published a page on its website describing the issue for comment, the process for contributing to the consultation and providing a copy of a discussion paper.

The discussion paper proposed that the ACMA introduce a legislative basis for the existing administrative arrangements around the Mid West RQZ in order to provide greater certainty for all parties. This would include action to:

- > introduce a Mid West RQZ frequency band plan that would, among other things, replace Embargo 41 and largely duplicate its provisions
- > extend the lower boundary of the protected frequency range from 100 MHz to 70 MHz to enable the requirements of the SKA bid to be met
- > make consequential amendments to the Australian Radiofrequency Spectrum Plan to enable the introduction of the band plan
- > leave the existing RALI MS32 in place
- > further highlight the protection mechanisms by cross-referencing them in relevant spectrum, class and apparatus licence conditions.

On 12 October 2010, a *Gazette* notice (No. S171) was published setting out the ACMA's intention to make a new frequency band plan, as per its proposal in the discussion paper and seeking public comments about the proposal.

Submissions to the consultation were initially due on 17 November 2010, but at the request of stakeholders the deadline was extended to 17 December 2010. Twenty responses were received, including 19 from the stakeholders listed below and one confidential submission. They are available on the ACMA website.

Government

- > Department of Defence
- > Department of Innovation, Industry, Science and Research (DIISR)
- > Government of Western Australia

Miners and infrastructure developers

- > Crosslands Resources
- > Jabiru Metals Ltd
- > Sinosteel Midwest Corporation
- > Talisman Mining Ltd
- > Australasian Railway Association
- > Oakajee Port and Rail

Telecommunications carriers

- > Optus
- > Telstra

Satellite service providers

- > AeroMobile
- > Global VSAT Forum
- > Inmarsat
- > Intelsat
- > Iridium
- > Pivotel

Astronomers

- > International Centre for Radio Astronomy Research (ICRAR)
- > CSIRO

Submissions indicated a diverse group of stakeholders with polarised and complex concerns regarding the ACMA proposal. Stakeholders, while generally supportive of the SKA, raised a

number of concerns regarding the potential impacts of the proposed measures, which were addressed in the revised approach.

In particular, some key themes emerged from the responses as follows:

- > **certainty**—a desire for greater technical and regulatory certainty, particularly around the role of the MRO;
- > **access to spectrum**—ensuring that arrangements did not unnecessarily restrict access to spectrum by other users in the region, particularly major mining and infrastructure projects;
- > **SKA bid**—ensuring that the technical and radio quiet requirements for the SKA project are met.

In addition, stakeholders raised a number of specific issues including:

- > the perceived potential for the impact of the proposed class licence conditions on other services to be more significant than intended, especially with respect to satellite services; and
- > recognition of a 'co-existence agreement' being negotiated by Western Australian and Australian Government agencies; and
- > a request for a full regulatory impact assessment of the RQZ.

Following its consideration of the diverse comments of stakeholders on its discussion paper, and further, targeted consultation on proposed revisions to the package of measures, the ACMA implemented revised arrangements to enhance regulatory protections for radio quiet in the Mid West RQZ. In particular, a more targeted approach to licence conditions was taken and the key elements of the 'co-existence' agreement were incorporated into this Band Plan.

Regulatory Impact

The Office of Best Practice and Regulation (OBPR) has considered the matter and formed the opinion that no regulatory impact analysis is required for the Band Plan. The OBPR reference number is ID12615.

Band Plan Details

Further details of the Band Plan are provided in the Attachment.

NOTES ON SECTIONS

Section 1 **Name of Band Plan**

Section 1 provides the name of the Band Plan.

Section 2 **Commencement**

Section 2 provides that the Band Plan commences on the day after it is registered.

Section 3 **Purpose of the Band Plan**

Section 3 provides that the purpose of the Band Plan is to establish a radio quiet zone (RQZ) and provide for the establishment of supplementary radio quiet zones, to prevent harmful interference to radioastronomy services. In particular it sets out the purposes for which frequency bands may be used in the RQZ or any supplementary RQZ.

Section 4 **Definitions**

Section 4 provides definitions for terms used in the Band Plan.

The definitions of "radio astronomy" and "radio astronomy service" state that they have the same meaning as in the *Australian Radiofrequency Spectrum Plan 2009* (Spectrum Plan). Essentially, as provided for in subsection 3(1) of the Spectrum Plan, a radioastronomy service is a radiocommunication service that is used for radioastronomy. Radioastronomy is defined as astronomy based on the reception of waves of cosmic origin.

Section 4 also provides definitions for the RQZ and supplementary RQZ. These definitions form the basis upon which applicable frequency bands are determined and define the areas in which services permitted by the Band Plan are permitted to be used.

Section 5 **Meaning of applicable frequency band**

Section 5 provides the meaning of applicable frequency bands for the purposes of the Band Plan. An applicable frequency band will not apply to the extent that, prior to the commencement of the Band Plan, parts of the spectrum coming within that band were subject to either a designation under section 36(1) of the Act or a spectrum re-allocation declaration under subsection 153B(1) of the Act that provide for the allocation of that spectrum by issuing spectrum licences.

This prevents the Band Plan from applying to spectrum that has been previously designated or reallocated by the Minister for spectrum licensing.

Section 6 **Applicable frequency band**

Section 6 sets out the applicable frequency bands under the Band Plan. Section 6 refers to the table in the Schedule, which lists the geographic area affected, and the particular frequency range of the applicable frequency bands. The Schedule provides for two frequency bands each with a frequency range of 70 MHz and 25.25 GHz and a specified geographic zone. There is an inner zone with a radius of 70 kilometres from the MRO; and an outer zone with a radius of 70-150 kilometres from the MRO.

Future, supplementary RQZ areas and applicable frequency bands may be added by listing them in further items in the table in the Schedule.

Section 7 Permitted purposes

Section 7 provides that an applicable frequency band, as described in section 6 may be used for

- > radioastronomy services; or
- > additional services as provided in section 8.

Section 7 clarifies that an applicable frequency band may be reserved from use for the purpose of preventing interference with radioastronomy services.

Section 7 provides that additional services that may operate in the inner zone of the RQZ, are to be taken to be secondary services to radioastronomy services.

Essentially, as provided for in section 12 of the Spectrum Plan, secondary services have a lower priority than primary services. Secondary services are required to not cause harmful interference to primary services and cannot claim protection from harmful interference from primary services.

Section 8 Additional services

Section 8 provides for the circumstances in which services other than radioastronomy services can use an applicable frequency band.

If an apparatus licence was issued before the commencement of the Band Plan, the service to which it applies may continue to operate under this Band Plan so long as its use is not inconsistent with the Spectrum Plan or another frequency band plan.

If an apparatus licence is sought after the commencement of this Band Plan, the service can only operate in an applicable frequency band if the licence applicant consults with the MRO entity about those services before applying for the licence. However, the ACMA may decide that an applicant need not consult with the MRO entity.

The intent of the requirement to consult with the MRO entity is that the licence applicant and the MRO entity would come to an agreement about appropriate technical solutions to ensure that radioastronomy services are protected from harmful interference while maximising the opportunities for other spectrum users to use the spectrum in the RQZ. The ACMA will consider all relevant circumstances, including the consultation that has been undertaken, when considering whether to grant an apparatus licence.

In conducting such consultations, reference may be made to a voluntary management framework agreed between the Australian and Western Australian Governments, which sets out their agreed position on the purpose of the RQZ, the roles and obligations of parties in the RQZ and dispute resolution mechanisms for proponents. In the alternative, the parties may develop other standing or ad hoc consultation arrangements.

Schedule 1 Description of radio quiet zone

Table

As referenced in section 6, Schedule 1 provides a description of two parts of the RQZ.

Both zones incorporate the frequency range 70 MHz to 25.25 GHz. The inner zone incorporates the area within a 70 kilometre radius of the MRO, which is located at latitude 26.704167 South, longitude 116.658889 East (GDA94 datum). The outer zone incorporates the area within a 70 to 150 kilometre radius of the MRO.