

Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters — 26 GHz Band) 2020

*Radiocommunications Act 1992*

made under section 262 of the

*Radiocommunications Act 1992*.

Prepared by the Australian Communications and Media Authority, Melbourne.

Part 1 Introduction

1.1 Name of Advisory Guidelines

These guidelines are the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters — 26 GHz Band) 2020*.

1.4 Purpose of these guidelines

(1) The purpose of these guidelines is to manage interference to apparatus licensed or class licensed radiocommunications receivers operating in and adjacent to the 26 GHz band.

(2) The ACMA takes these guidelines into account in determining whether a spectrum licensed radiocommunications transmitter is causing interference to an apparatus licensed or class licensed radiocommunications receiver operating in any of the circumstances set out in these guidelines.

(3) These guidelines do not prevent a licensee negotiating other protection requirements with another licensee.

1.5 Interpretation

(1) In these guidelines, unless the contrary intention appears:

***26 GHz band*** means the 25.1-27.5 GHz frequency band.

***Act*** means the *Radiocommunications Act 1992.*

***Australian Spectrum Map Grid (ASMG)*** means the *Australian Spectrum Map Grid 2012* published by the ACMA, as existing from time to time.

*Note* The ASMG can be accessed on the ACMA website: www.acma.gov.au.

***base station*** means a radiocommunications device which is connected to a telecommunications network and supplies a service to one or more user equipment stations.

***harmful interference*** has the same meaning as in the Spectrum Plan.

***in-band*** means:

(a) for a radiocommunications transmitter or radiocommunications receiver operated under a spectrum licence, the frequencies within the frequency band in which operation of those radiocommunications devices is authorised under the licence; and

(b) for a radiocommunications transmitter or radiocommunications receiver operating under an apparatus licence, the frequencies within the lower frequency limit and the upper frequency limit specified in the licence.

***Indoors*** means an enclosed space where the antenna is located at least 2 metres from the external surface of the part of the enclosed space which is illuminated by the antenna’s half-power beamwidth.

***ITU*** means the International Telecommunication Union.

***ITU-R*** means the International Telecommunication Union Radiocommunication Sector.

***ITU-R Recommendation*** means a Recommendation made by the ITU-R as in force from time to time.

*Note* ITU-R Recommendations are available on the ITU website at http://www.itu.int.

***out-of-band*** means:

(a) for a radiocommunications transmitter or radiocommunications receiver operated under a spectrum licence, the frequencies outside the frequency band in which operation of those radiocommunications devices is authorised under the licence; and

(b) for a radiocommunications transmitter or radiocommunications receiver operating under an apparatus licence, the frequencies outside the lower frequency limit and upper frequency limit specified in the licence.

***RALI FX 3*** means the Radiocommunications Assignment and Licensing Instruction No. FX 3, *Mircowave Fixed Services Frequency Coordination*, published by the ACMA, as existing from time to time.

*Note* RALI FX 3 is available on the ACMA website at http://www.acma.gov.au

***RALI [new]*** means the Radiocommunications Assignment and Licensing Instruction No. [new], *[insert title]*, published by the ACMA, as existing from time to time.

*Note* RALI [new] is available on the ACMA website at http://www.acma.gov.au.

***Spectrum Plan*** means the *Australian Radiofrequency Spectrum Plan 2013* prepared under subsection 30(1) of the Act, as in force from time to time.

***subsection 145(4) Determination*** means the *Radiocommunications (Unacceptable Levels of Interference – 26 GHz Band) Determination 2020.*

***user equipment station*** means a radiocommunications device which is not a base station.

*Note* A number of terms used in these guidelines are defined in the Act and, unless the contrary intention appears, have the meaning given to them by the Act. These include:

* ACMA
* apparatus licence
* class licence
* core condition
* frequency band
* interference
* radiocommunications receiver
* radiocommunications transmitter
* Register
* spectrum licence.

(2) Unless the contrary intention appears, terms used in these guidelines that are defined in the subsection 145(4) Determination have the same meaning as in that determination.

*Note* The following terms that are used in these guidelines are defined in the subsection 145(4) Determination:

* + fixed transmitter
  + Radio Regulations.

(3) Unless the contrary intention appears, terms used in these guidelines that are defined in the *Radiocommunications (Interpretation) Determination 2015* have the same meaning as in that determination.

Part 2 Background

* 1. The 26 GHz band has been designated for spectrum licensing in defined areas. Radiocommunications receivers of apparatus licensed and class licensed services may operate in and adjacent to this frequency band. These receivers may suffer interference from unwanted emissions and blocking caused by a radiocommunications transmitter operating under a spectrum licence in the 26 GHz band.
  2. Unwanted emissions are by-products of a radiocommunications transmitter’s emissions and include broadband noise, harmonics, intermodulation products, transient signals and other spurious signals. Blocking occurs when a high level off-tune signal overloads a radiocommunications receiver’s front-end and causes a degradation in the quality of the wanted output signal. Intermodulation products can be generated in-band in the input stages of receivers in the presence of two or more high level signals at the receiver input.
  3. These guidelines have been made for the management of these types of interference to licensed radiocommunications receivers operating in the following circumstances:
* Space research service earth stations operating in the 25.5-27 GHz band (Part 3 of these guidelines);
* Fixed satellite service (FSS) gateway uplinks operating in the 27-27.5 GHz band (Part 4 of these guidelines);
* Area-wide apparatus licensed services operating in and adjacent to the 26 GHz band (Part 5 of these guidelines);
* Earth exploration satellite services (passive) operating in the 23.6-24 GHz band (Part 6 of these guidelines);
* Class licensed services (Part 7 of these guidelines);
* Fixed point-to-point services operating in the 27.5-29.5 GHz band (Part 8 of these guidelines);
* Space station receivers operating in 27-27.5 GHz (Part 9 of these guidelines).
  1. As radio waves propagate in different ways because of factors such as frequency, terrain, atmospheric conditions and topography, there are a number of ways to predict path loss. ITU-R Recommendation P.1144 “*Guide to the application of the propagation methods of Radiocommunications Study Group 3*” provides a guide on the application of various propagation methods developed internationally by the ITU‑R. It advises users on the most appropriate methods for particular applications as well as the limits, required input information, and output for each of these methods. It is recommended that the most recent version of propagation models defined by the ITU-R should be considered when modelling propagation in the 26 GHz band.

*Note* The use of other published propagation models applicable to the 26 GHz band may also be suitable.

Part 3 Space research service earth stations

3.1 Background

(1) The Canberra Deep Space Communications Complex at Tidbinbilla, NSW and the New Norcia Deep Space Ground Station at New Norcia, WA, operate receiving earth stations in the frequency band 25.5-27 GHz.

3.2 Protection requirements

(1) Radiocommunications transmitters operated under a spectrum licence in the 26 GHz band in the frequency range 25.5-27 GHz, other than transmitters exempt from registration in accordance with the conditions of the licence, must protect the Canberra Deep Space Communications Complex earth receive station located at -35.3951˚N, 148.9785˚E and the New Norcia Deep Space Ground Station earth receive station located at -31.0484˚N, 116.1914˚E.

(2) The Canberra Deep Space Communications Complex and the New Norcia Deep Space Ground Station are to be protected from co-channel emissions to an aggregate interference level of -156 dBW/MHz at the input of the receiver.

*Note* The interference level is based on Recommendation ITU-R SA.609-2.

(3) The earth station antenna pattern to be used in calculations is defined in ITU-R Recommendation SA.509-3 with a minimum elevation above the horizon of:

(a) for the Canberra Deep Space Communications Complex, the maximum of:

(i) 6 degrees; or

(ii) the angle to clear terrain in the direction of the proposed transmitter plus 0.5 degrees;

(b) for the New Norcia Deep Space Ground Station, the maximum of:

(i) 5 degrees; or

(ii) the angle to clear terrain in the direction of the proposed transmitter plus 0.5 degrees.

Part 4 Fixed satellite service gateway uplinks

4.1 Background

(1) Fixed satellite service (FSS) gateway uplinks operate at frequencies which overlap the 27-27.5 GHz range and are licensed at 10 locations across Australia. The potential interference path is from 26 GHz band spectrum licensed devices into FSS satellite receivers.

(2) Subsection 4.2 of Part 4 contains provisions to manage coexistence between radiocommunications transmitters operated under a 26 GHz band spectrum licence and FSS gateway uplinks.

4.2 Protection requirements

(1) A radiocommunications transmitter operated under a spectrum licence in the 26 GHz band must not direct its antenna beam to within 1.5 degrees of the geostationary orbit, if it:

(a) is a user equipment station

(b) is directing its antenna beam to an elevation angle greater than or equal to 3 degrees above the horizon;

(c) is a fixed transmitter;

(d) is connected to an antenna which has line of sight to the geostationary orbit;

(e) is not an indoor transmitter;

(e) operates in the frequency range 27-27.5 GHz; and

(f) is located inside an area subject to additional conditions specified in Schedule 1.

(2) A radiocommunications transmitter operated under a spectrum licence in the 26 GHz band which is a base station, must not:

(a) operate with a total radiated power exceeding 25 dBm/200MHz;

(b) be connected to an antenna which has its highest gain directed above the horizon when the antenna is not being electrically steered; or

(c) direct its antenna beam via electrical steering to an elevation angle greater than 5 degrees above the horizon for more than 5 percent of time.

If:

(d) the radiocommunications transmitter operates in the frequency range 27-27.5 GHz; and

(e) the radiocommunications transmitter is located inside an area subject to additional conditions specified in Schedule 1.

(3) Other than the requirements in subsections 4.2(1) and 4.2(2) of Part 4, radiocommunications transmitters operated under a spectrum licence in the 26 GHz band in accordance with the conditions of the licence are not taken to cause unacceptable interference to FSS gateway uplinks.

Part 5 Area-wide apparatus licensed services

5.1 Background

1. Area-wide apparatus licensed services are authorised to operate in the 24.7-25.1 GHz band Australia wide and 25.1-27.5 GHz in outside geographic areas subject to 26 GHz band spectrum licensing. Frequency assignment arrangements for area-wide apparatus licences are defined in RALI [new].
2. Radiocommunications transmitters operated under a spectrum licence in the 26 GHz band have the potential to cause interference to area-wide apparatus licensed receivers located within the geographical area authorised by the area-wide apparatus licence.
3. The device boundary criterion, as defined in the subsection 145(4) Determination, is the primary mechanism for managing interference across geographical boundaries. However, at times it may be necessary for licensees operating radiocommunications transmitters in the 26 GHz band to negotiate with other spectrum licensees when deploying services in order to avoid harmful interference.
4. The primary mechanism for managing interference across frequency boundaries is the unwanted emissions limits defined in the 26 GHz band spectrum licence. However, as services operated under 26 GHz band spectrum licences and area-wide apparatus licences will be in TDD mode, there is potential for interference even when devices comply with the defined unwanted emission limits. Therefore, at times it may be necessary for licensees operating radiocommunications transmitters in the 26 GHz band to negotiate with other spectrum licensees when deploying services in order to avoid harmful interference.
5. The procedures detailed in subsection 5.2 are to be used to manage both adjacent-area and adjacent-band interference from radiocommunications transmitters operated under a spectrum licence in the 26 GHz and receivers operated under an area-wide apparatus licence in and adjacent to the 26 GHz band.

5.2 Recommended preliminary coordination proceduers

1. Spectrum licensees planning to deploy radiocommunications transmitters in the 26 GHz band should have regard to radiocommunications receivers recorded in the Register operating under area-wide apparatus licences operating in and adjacent to the 26 GHz band.
2. In planning for the operation of fixed transmitters under a spectrum licence in the 26 GHz band, spectrum licensees should coordinate with any radiocommunications receivers recorded in the Register. The coordination performed should:
   * 1. use the parameters of the radiocommunications receivers as recorded in the Register;
     2. use the compatibility requirement set out in Schedule 2 of the *Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers — 26 GHz Band) 2020* as in force from time to time;
     3. Although there are no receiver performance requirements, the notional receiver performance level set out in Schedule 1 of *Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers — 26 GHz Band) 2020* as in force from time to time, is to be used for coordination purposes.
     4. make use of a suitable propagation model to model path loss between the fixed transmitters and radiocommunications receivers; and
     5. take into account terrain and any other relevant factors.

*Note* An example of a suitable propagation model is that set out in section 4.5.2 of ITU-R Recommendation P.526-14 *Propagation by diffraction*.

1. In the event that coordination performed under subsection 5.2(7) indicates harmful interference may occur, spectrum licensees should consider:
2. replanning the deployment of the fixed transmitters to avoid causing harmful interference; or
3. negotiating with the licensee of the affected area-wide licence to find a resolution.
4. In the event a solution under subsection 5.2(8) is not possible, interference is managed in accordance with any synchronisation requirementcondition included in the spectrum licence, unless other arrangements are agreed to by the affected licensees.

*Note:* For a device with an active antenna system, the radiated power in the direction of a receiver operated under another licence, is defined as the sum of the gain of the antenna towards in the direction of the receiver (accounting for azimuth and elevation) and the Total Radiated Power (dBm). This allowance is based on the assumption that beam pointing angles and/or power can be controlled dynamically to ensure a defined level of radiated power in a specific direction is not exceeded.

Part 6 Earth exploration satellite services (passive)

6.1 Background

The Spectrum Plan provides a primary allocation to the earth exploration satellite services (passive) in the 23.6-24 GHz band.

**6.2** **Protection requirements**

Radiocommunications transmitters operated under a spectrum licence in the 26 GHz band in accordance with the conditions of the licence are not taken to cause unacceptable interference to earth exploration satellite services (passive) operating in the 23.6-24 GHz band.

Part 7 Class licensed services

7.1 Background

The *Radiocommunications (Body Scanning – Aviation Security) Class Licence 2018* and *Radiocommunications (Low Interference Potential Devices) Class Licence 2015* class licences permit the operation of a number of different types of radiocommunications transmitters in the 26 GHz band.

7.2 Protection requirements

(1) Radiocommunications transmitters operated under a spectrum licence in the 26 GHz band must not cause harmful interference to a device operated under the *Radiocommunications (Body Scanning – Aviation Security) Class Licence 2018*, as in force from time to time.

Note:  A radiocommunications receiver operated under a spectrum licence in the 26 GHz band is not afforded protection from interference by a device operated under the Radiocommunications (Body Scanning – Aviation Security) Class Licence 2018, as in force from time to time.

(2) Radiocommunications transmitters operated under a spectrum licence in the 26 GHz band in accordance with the conditions of the licence are not taken to cause unacceptable interference to services operating under a class licence other than the *Radiocommunications (Body Scanning – Aviation Security) Class Licence 2018*.

Part 8 Fixed point-to-point services

8.1 Background

(1) Apparatus licensed fixed point-to-point services operate in the frequency range 27.5-29.5 GHz and are licensed in accordance with the frequency assignment criteria detailed in RALI FX 3.

(2) RALI[new] contains the protection requirements for fixed point-to-point service for interference from ‘area-wide’ apparatus licensed services operating in the frequency range 24.7-29.5 GHz.

8.2 Protection requirements

(1) In planning for the operation of radiocommunications transmitters under a spectrum licence, spectrum licensees are to provide fixed point-to-point services with a level of out-of-band and in-band protection from those transmitters, other than transmitters exempt from registration in accordance with the conditions of the licence, as would be provided from an area-wide apparatus licensed transmitter which has been coordinated in accordance with RALI[new].

Part 9 Space station receivers

9.1 Background

(1) Article 5 of the ITU-R Radio Regulations provides allocations for various space services in the range 24.7-27.5 MHz on a co-primary basis with terrestrial services (including IMT). ITU-R Resolution COM4/8 (WRC-19) resolves that administrations shall apply a number of conditions on IMT base station deployments in the range 24.25-27.5 GHz to protect space station receivers.

9.2 Protection requirements

(1) Licensees of a 26 GHz band spectrum licence are to adhere to the provisions detailed in ITU-R Resolution COM4/8 (WRC-19) for deployments in the range 27-27.5 GHz and within the areas subject to additional conditions specified in Schedule 1, including:

1. Taking practical measures to ensure the transmitting antennas of outdoor base stations are normally pointing below the horison, when deploying IMT base stations. The mechanical pointing neets to be at or below the horizon.
2. As far as practical, site for IMT bas stations employing values of equivalent isotropically radiated power (eirp) per beam exceeding 60 dBm/200 MHz should be selected so that the direction pf maximum radiation of any antenna will be separated from the GSO, within line of sight of the IMT base station, by ±7.5 degrees.

**Schedule 1 Areas subject to additional conditions**

(subsections 4.2 (1) and 4.2(2)

**Description of Area**

1. The areas subject to additional conditions are the areas named in Column 1 of the table below.
2. An area subject to additional conditions consists of the aggregation of block areas referenced by HCIS identifiers used to describe it which are specified in the corresponding Column 2 of the table below. (Refer to the ASMG for a complete description of the naming convention referred to as the HCIS.)

| Column 1  Name | Column 2  HCIS Identifiers |
| --- | --- |
| Bourke | LU4F, LU4G, LU4H, LU4J, LU4K, LU4L, LU4M, LU4N, LU4O, LU4P, LU5E, LU5F, LU5I, LU5J, LU5K, LU5M, LU5N, LU5O, LU7A, LU7B, LU7C, LU7D, LU7F, LU7G, LU7H, LU7J, LU7K, LU7L, LU7P, LU8A, LU8B, LU8C, LU8E, LU8F, LU8G, LU8I, LU8J, LU8M, LU4B9, LU4C5, LU4C6, LU4C7, LU4C8, LU4C9, LU4D4, LU4D5, LU4D6, LU4D7, LU4D8, LU4D9, LU4E6, LU4E9, LU4I2, LU4I3, LU4I5, LU4I6, LU4I8, LU4I9, LU5A4, LU5A5, LU5A6, LU5A7, LU5A8, LU5A9, LU5B7, LU5B8, LU5G4, LU5G7, LU5G8, LU5L7, LU5P1, LU5P4, LU5P7, LU7E2, LU7E3, LU7E5, LU7E6, LU7E8, LU7E9, LU7I3, LU7N2, LU7N3, LU7O1, LU7O2, LU7O3, LU7O4, LU7O5, LU7O6, LU7O9, LU8D1, LU8D4, LU8D7, LU8H1, LU8H4, LU8H7, LU8K1, LU8K2, LU8K3, LU8K4, LU8K5, LU8K6, LU8K7, LU8K8, LU8N1, LU8N2, LU8N3, LU8N4, LU8N5, LU8N6, LU8O1 |
| Carnarvon | AS8C, AS8D, AS8F, AS8G, AS8H, AS8I, AS8J, AS8K, AS8L, AS8M, AS8N, AS8O, AS8P, AS9A, AS9B, AS9E, AS9F, AS9G, AS9I, AS9J, AS9K, AS9M, AS9N, AS9O, AT1D, AT1H, AT2A, AT2B, AT2C, AT2D, AT2E, AT2F, AT2G, AT2H, AT2I, AT2J, AT2K, AT3A, AT3B, AT3E, AS5P9, AS6M7, AS6M8, AS8A9, AS8B5, AS8B6, AS8B7, AS8B8, AS8B9, AS8E2, AS8E3, AS8E4, AS8E5, AS8E6, AS8E7, AS8E8, AS8E9, AS9C4, AS9C5, AS9C7, AS9C8, AS9H4, AS9H7, AS9L1, AS9L4, AS9L7, AS9P1, AT1C2, AT1C3, AT1C5, AT1C6, AT1C8, AT1C9, AT1G2, AT1G3, AT1G5, AT1G6, AT1G8, AT1G9, AT1K3, AT1L1, AT1L2, AT1L3, AT1L4, AT1L5, AT1L6, AT1L9, AT2L1, AT2L2, AT2L3, AT2L4, AT2L5, AT2L6, AT2L7, AT2L8, AT2M3, AT2N1, AT2N2, AT2N3, AT3C1, AT3C2, AT3C3, AT3C4, AT3C5, AT3C7, AT3F1, AT3F2, AT3F3, AT3F4, AT3F5, AT3F7, AT3I1, AT3I2, AT3I3, AT3I4 |
| Ceduna | HV4, GV6D, GV6H, HV1F, HV1G, HV1H, HV1I, HV1J, HV1K, HV1L, HV1M, HV1N, HV1O, HV1P, HV2E, HV2I, HV2J, HV2M, HV2N, HV5A, HV5B, HV5E, HV5F, HV5I, GV3L3, GV3L6, GV3L8, GV3L9, GV3P2, GV3P3, GV3P4, GV3P5, GV3P6, GV3P7, GV3P8, GV3P9, GV6L1, GV6L2, GV6L3, GV6L4, GV6L5, GV6L6, GV6L8, GV6L9, GV6P2, GV6P3, GV6P6, HV1B8, HV1B9, HV1C7, HV1C8, HV1C9, HV1D7, HV1D8, HV1D9, HV1E5, HV1E6, HV1E7, HV1E8, HV1E9, HV2A7, HV2A8, HV2A9, HV2F1, HV2F4, HV2F5, HV2F7, HV2F8, HV2F9, HV2K1, HV2K4, HV2K7, HV2O1, HV2O2, HV2O4, HV2O5, HV2O7, HV2O8, HV5C1, HV5C2, HV5C4, HV5C5, HV5C7, HV5C8, HV5G1, HV5G4, HV5G7, HV5J1, HV5J2, HV5J3, HV5J4, HV5J5, HV5J6, HV5J7, HV5J8, HV5M1, HV5M2, HV5M3, HV5M4, HV5M5, HV5M6, HV5M7, HV5M8, HV5N1 |
| Geeveston | LY8B, LY8C, LY8D, LY8E, LY8F, LY8G, LY8H, LY8I, LY8J, LY8K, LY8L, LY8M, LY8N, LY8O, LY8P, LY9A, LY9E, LY9F, LY9G, LY9I, LY9J, LY9K, LY9M, LY9N, LY9O, LY9P, LZ2A, LZ2B, LZ2C, LZ2D, LZ2E, LZ2F, LZ2G, LZ2H, LZ2I, LZ2J, LZ2K, LZ2L, LZ2N, LZ2O, LZ2P, LZ3A, LZ3B, LZ3C, LZ3D, LZ3E, LZ3F, LZ3G, LZ3H, LZ3I, LZ3J, LZ3K, LZ3L, LZ3M, LZ3N, LZ3O, LY5N9, LY5O7, LY5O8, LY5O9, LY5P7, LY5P8, LY5P9, LY6M7, LY6M8, LY6M9, LY7H9, LY7L3, LY7L5, LY7L6, LY7L8, LY7L9, LY7P2, LY7P3, LY7P5, LY7P6, LY7P8, LY7P9, LY8A6, LY8A8, LY8A9, LY9B1, LY9B2, LY9B4, LY9B5, LY9B6, LY9B7, LY9B8, LY9B9, LY9C4, LY9C7, LY9C8, LY9H4, LY9H7, LY9L1, LY9L2, LY9L4, LY9L5, LY9L7, LY9L8, LY9L9, LZ1D2, LZ1D3, LZ1D5, LZ1D6, LZ1D8, LZ1D9, LZ1H2, LZ1H3, LZ1H5, LZ1H6, LZ1H9, LZ1L3, LZ1L6, LZ2M1, LZ2M2, LZ2M3, LZ2M5, LZ2M6, LZ2M9, LZ3P1, LZ3P2, LZ3P3, LZ3P4, LZ3P5, LZ3P6, LZ3P7, LZ3P8, MZ1A1, MZ1A4, MZ1A7, MZ1E1, MZ1E4, MZ1E7, MZ1I1, MZ1I4 |
| Kalgoorlie | DU7, CU9H, CU9K, CU9L, CU9O, CU9P, CV3B, CV3C, CV3D, CV3G, CV3H, CV3L, DU8A, DU8E, DU8I, DU8M, DV1A, DV1B, DV1C, DV1D, DV1E, DV1F, DV1G, DV1H, DV1I, DV1J, CU9D3, CU9D5, CU9D6, CU9D7, CU9D8, CU9D9, CU9G3, CU9G5, CU9G6, CU9G7, CU9G8, CU9G9, CU9J3, CU9J6, CU9J8, CU9J9, CU9N2, CU9N3, CU9N5, CU9N6, CU9N7, CU9N8, CU9N9, CV3F1, CV3F2, CV3F3, CV3F5, CV3F6, CV3F8, CV3F9, CV3J3, CV3K1, CV3K2, CV3K3, CV3K4, CV3K5, CV3K6, CV3K8, CV3K9, CV3P2, CV3P3, DU4M8, DU4M9, DU4N4, DU4N5, DU4N6, DU4N7, DU4N8, DU4N9, DU4O4, DU4O5, DU4O6, DU4O7, DU4O8, DU4O9, DU4P4, DU4P5, DU4P6, DU4P7, DU4P8, DU4P9, DU5M7, DU5M8, DU8B4, DU8B7, DU8B8, DU8F1, DU8F2, DU8F4, DU8F5, DU8F7, DU8F8, DU8J1, DU8J2, DU8J4, DU8J5, DU8J7, DU8J8, DU8N1, DU8N2, DU8N4, DU8N5, DU8N7, DV1K1, DV1K2, DV1K3, DV1K4, DV1K5, DV1K6, DV1K7, DV1L1, DV1M1, DV1M2, DV2A1, DV2A2, DV2A3, DV2A4, DV2A5, DV2A6, DV2A7, DV2A8, DV2B1, DV2E1, DV2E2, DV2E4 |
| Moonyoonooka | AU2L, AU2P, AU3C, AU3D, AU3E, AU3F, AU3G, AU3H, AU3I, AU3J, AU3K, AU3L, AU3M, AU3N, AU3O, AU3P, AU6A, AU6B, AU6C, AU6D, AU6E, AU6F, AU6G, AU6H, AU6I, AU6J, AU6K, BU1A, BU1B, BU1C, BU1E, BU1F, BU1G, BU1I, BU1J, BU1K, BU1M, BU1N, BU1O, BU4A, BU4B, BU4E, AT9O6, AT9O7, AT9O8, AT9O9, AT9P4, AT9P5, AT9P6, AT9P7, AT9P8, AT9P9, AU2H6, AU2H8, AU2H9, AU2K6, AU2K9, AU2O2, AU2O3, AU2O5, AU2O6, AU2O8, AU2O9, AU3A6, AU3A8, AU3A9, AU3B2, AU3B3, AU3B4, AU3B5, AU3B6, AU3B7, AU3B8, AU3B9, AU6L1, AU6L2, AU6L3, AU6L4, AU6L5, AU6L6, BT7M4, BT7M5, BT7M6, BT7M7, BT7M8, BT7M9, BT7N4, BT7N5, BT7N6, BT7N7, BT7N8, BT7N9, BT7O7, BT7O8, BU1D4, BU1D7, BU1H1, BU1H2, BU1H4, BU1H5, BU1H7, BU1H8, BU1L1, BU1L2, BU1L4, BU1L5, BU1L7, BU1L8, BU1P1, BU1P4, BU4C1, BU4C2, BU4C3, BU4C4, BU4C5, BU4C7, BU4F1, BU4F2, BU4F3, BU4F4, BU4F5, BU4I1, BU4I2 |
| Nugee | JV2L, JV2P, JV3B, JV3C, JV3D, JV3E, JV3F, JV3G, JV3H, JV3I, JV3J, JV3K, JV3L, JV3M, JV3N, JV3O, JV3P, JV5D, JV5H, JV6A, JV6B, JV6C, JV6D, JV6E, JV6F, JV6G, JV6H, JV6I, JV6J, JV6K, JV6L, KV1E, KV1I, KV1M, KV1N, KV4A, KV4E, JU9N8, JU9N9, JU9O7, JU9O8, JU9O9, JU9P7, JV2D6, JV2D8, JV2D9, JV2G9, JV2H2, JV2H3, JV2H4, JV2H5, JV2H6, JV2H7, JV2H8, JV2H9, JV2K3, JV2K6, JV2K8, JV2K9, JV2O2, JV2O3, JV2O5, JV2O6, JV2O8, JV2O9, JV3A2, JV3A3, JV3A4, JV3A5, JV3A6, JV3A7, JV3A8, JV3A9, JV5C2, JV5C3, JV5C5, JV5C6, JV5C9, JV5G3, JV5G6, JV5L1, JV5L2, JV5L3, JV5L5, JV5L6, JV5L9, JV6M1, JV6M2, JV6M3, JV6N1, JV6N2, JV6N3, JV6N4, JV6N5, JV6N6, JV6O1, JV6O2, JV6O3, JV6O4, JV6O5, JV6O6, JV6P1, JV6P2, JV6P3, JV6P4, KV1A4, KV1A5, KV1A7, KV1A8, KV1A9, KV1F1, KV1F4, KV1F7, KV1F8, KV1J1, KV1J2, KV1J4, KV1J5, KV1J7, KV1J8, KV1J9, KV4B1, KV4B2, KV4B3, KV4B4, KV4B5, KV4B6, KV4B7, KV4B8, KV4F1, KV4F2, KV4F4, KV4F5, KV4F7, KV4I1, KV4I2, KV4I3, KV4I4, KV4I5, KV4I6, KV4I7, KV4I8, KV4J1 |
| Roma | MT1O, MT1P, MT2M, MT4B, MT4C, MT4D, MT4E, MT4F, MT4G, MT4H, MT4I, MT4J, MT4K, MT4L, MT4N, MT4O, MT4P, MT5A, MT5B, MT5E, MT5F, MT5I, MT5J, MT5K, MT5M, MT5N, MT5O, MT7B, MT7C, MT7D, MT7H, MT8A, MT8B, MT8E, MT1K7, MT1K8, MT1K9, MT1L7, MT1L8, MT1L9, MT1M9, MT1N2, MT1N3, MT1N4, MT1N5, MT1N6, MT1N7, MT1N8, MT1N9, MT2I7, MT2N4, MT2N5, MT2N7, MT2N8, MT2N9, MT4A2, MT4A3, MT4A4, MT4A5, MT4A6, MT4A7, MT4A8, MT4A9, MT4M1, MT4M2, MT4M3, MT4M4, MT4M5, MT4M6, MT4M8, MT4M9, MT5C1, MT5C4, MT5C7, MT5C8, MT5G1, MT5G2, MT5G4, MT5G5, MT5G6, MT5G7, MT5G8, MT5G9, MT7A2, MT7A3, MT7A6, MT7A9, MT7F1, MT7F2, MT7F3, MT7F6, MT7G1, MT7G2, MT7G3, MT7G4, MT7G5, MT7G6, MT7G8, MT7G9, MT8C1, MT8C2, MT8C4, MT8C5, MT8C7, MT8F1, MT8F2, MT8F3, MT8F4, MT8F5 |
| Waroona | AV9D, AV9H, AV9L, BV4D, BV4F, BV4G, BV4H, BV4I, BV4J, BV4K, BV4L, BV4M, BV4N, BV4O, BV4P, BV5A, BV5B, BV5C, BV5E, BV5F, BV5G, BV5H, BV5I, BV5J, BV5K, BV5L, BV5M, BV5N, BV5O, BV5P, BV7A, BV7B, BV7C, BV7D, BV7E, BV7F, BV7G, BV7H, BV7I, BV7J, BV7K, BV7L, BV8A, BV8B, BV8C, BV8E, BV8F, BV8I, AV9C3, AV9C6, AV9C9, AV9G3, AV9G6, AV9G9, AV9K3, AV9P2, AV9P3, BV1P8, BV1P9, BV2M7, BV2M8, BV2M9, BV2N4, BV2N5, BV2N6, BV2N7, BV2N8, BV2N9, BV2O7, BV2O8, BV2O9, BV2P7, BV4B8, BV4B9, BV4C2, BV4C3, BV4C4, BV4C5, BV4C6, BV4C7, BV4C8, BV4C9, BV4E6, BV4E8, BV4E9, BV5D1, BV5D2, BV5D4, BV5D5, BV5D6, BV5D7, BV5D8, BV5D9, BV6A7, BV6E1, BV6E4, BV6E7, BV6E8, BV6I1, BV6I2, BV6I4, BV6I5, BV6I7, BV6M1, BV6M4, BV7M1, BV7M2, BV7M3, BV7M4, BV7M5, BV7M6, BV7N1, BV7N2, BV7N3, BV7N4, BV7N5, BV7N6, BV7O1, BV7O2, BV7O3, BV7O4, BV7O5, BV7O6, BV7P1, BV7P2, BV7P3, BV7P4, BV7P5, BV8D1, BV8D2, BV8D3, BV8D4, BV8D5, BV8D7, BV8G1, BV8G2, BV8G3, BV8G4, BV8G5, BV8G6, BV8G7, BV8G8, BV8H1, BV8J1, BV8J2, BV8J3, BV8J4, BV8J5, BV8J7, BV8M1, BV8M2 |
| Wolumla | MW8, MW5N, MW5O, MW5P, MW7L, MW9A, MW9B, MW9E, MW9F, MW9I, MW9J, MW9K, MW9M, MW9N, MW9O, MX2A, MX2B, MX2C, MX2D, MX2E, MX2F, MX2G, MX2H, MX2K, MX2L, MX3A, MX3B, MX3C, MX3E, MX3F, MX3G, MX3I, MX3J, MW5M5, MW5M6, MW5M7, MW5M8, MW5M9, MW6M1, MW6M4, MW6M5, MW6M6, MW6M7, MW6M8, MW6M9, MW6N7, MW7D3, MW7D6, MW7D8, MW7D9, MW7H2, MW7H3, MW7H5, MW7H6, MW7H7, MW7H8, MW7H9, MW7P1, MW7P2, MW7P3, MW7P5, MW7P6, MW7P8, MW7P9, MW9C7, MW9G1, MW9G2, MW9G4, MW9G5, MW9G7, MW9G8, MW9G9, MW9L7, MW9P1, MW9P4, MW9P7, MX1D2, MX1D3, MX1D5, MX1D6, MX1D9, MX1H3, MX2I2, MX2I3, MX2I6, MX2J1, MX2J2, MX2J3, MX2J4, MX2J5, MX2J6, MX2J8, MX2J9, MX2N3, MX2O1, MX2O2, MX2O3, MX2P1, MX2P2, MX2P3, MX2P5, MX2P6, MX3D1, MX3D4, MX3D7, MX3K1, MX3K2, MX3K4, MX3M1, MX3M2, MX3M3, MX3M4, MX3N1, MX3N2 |

Endnotes

**Endnote 1 – About the endnotes**

The endnotes provide information about this compilation and the compiled law.

Endnote 2 (Abbreviation key) sets out abbreviations that may be used in the endnotes.

Endnote 3 (Legislation history) provides information about each law that has amended (or will amend) the compiled law. The information includes commencement details for amending laws and details of any application, saving or transitional provisions that are not included in this compilation.

Endnote 4 (Amendment history) provides information about the amendments at the provision (generally section or equivalent) level and includes information about any provision of the compiled law that has been repealed in accordance with a provision of the law.

It also includes information about any misdescribed amendment (that is, an amendment that does not accurately describe the amendment to be made). If, despite the misdescription, the amendment can be given effect as intended, the amendment is incorporated into the compiled law and the abbreviation “(md)” added to the details of the amendment included in the amendment history. If a misdescribed amendment cannot be given effect as intended, the abbreviation “(md not incorp)” is added to the details of the amendment included in the amendment history.

**Endnote 2—Abbreviation key**

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| --- | --- |
| ad = added or inserted | (md not incorp) = misdescribed amendment |
| am = amended | cannot be given effect |
| amdt = amendment | mod = modified/modification |
| c = clause(s) | No. = Number(s) |
| Ch = Chapter(s) | par = paragraph(s)/subparagraph(s) |
| Dict = Dictionary | Pt = Part(s) |
| Div = Division(s) | rep = repealed |
| exp = expires/expired or ceases/ceased to have effect | rs = repealed and substituted |
| F = Federal Register of Legislation | s = section(s)/subsection(s) |
| gaz = gazette | Sch = Schedule(s) |
| LA = *Legislation Act 2003* | Sdiv = Subdivision(s) |