



**Australian
Broadcasting
Authority**

ILLAWARRA, SE NSW AND ACT CANBERRA AREA

(RADIO)



**DISCUSSION PAPER AND
DRAFT LICENCE AREA PLAN**

OCTOBER 1998

TABLE OF CONTENTS

ISSUE	3
INTRODUCTION	3
TECHNICAL SPECIFICATIONS	4
OBJECTIVES	6
OPTIONS	6
IMPACT ANALYSIS	11
OPTIONS	17
Option 1 - National radio services	17
Option 2 - Existing commercial radio services in Canberra.	18
Option 3 - Additional commercial radio service with an associated transmitter, or new open narrowcasting services in Canberra and Tuggeranong.	20
Option 4 - Conversion to the FM Band for existing community radio service 2XX	24
Options 5, 6 and 7 - Existing community radio services in Canberra	26
Option 8 - Additional community radio services in Canberra	28
Option 9 - New community radio service in Queanbeyan	31
Option 10 - Potential vacant AM channel in Canberra	32
Options 11, 12 and 13 - Open narrowcasting services in Queanbeyan, Williamsdale and Yass	33
Option 14 - Proposed variation to the Frequency Allotment Plan	34
CONSULTATION	35
CONCLUSION	35
APPENDIX 1 - Index of Specific Advice	36
APPENDIX 2 - Index of Submissions	37
APPENDIX 3 - Proposed Assignment of Channels Report	40
APPENDIX 4 - Technical Restraints relating to the Delivery or Reception of Broadcasting Services	42

ISSUE

- (1) Part 3 of the *Broadcasting Services Act* (the Act) places responsibility for planning of the broadcasting services bands with the Australian Broadcasting Authority (ABA). The Act sets out three stages for the planning process - determination of priorities for the planning of services using the broadcasting services bands, preparation of a frequency allotment plan (FAP) and, finally, preparation of licence area plans (LAPs). Sections 24, 25 and 26 of the Act refer.
- (2) The ABA is now planning radio broadcasting services for areas within Group 3 of its planning priorities. The Canberra area falls within the R9 Illawarra, SE NSW and ACT region within this planning priority group.
- (3) In accordance with s.25(2), s.26 and s.27 of the Act the ABA has prepared this discussion paper and draft LAP and FAP for the Canberra area.

INTRODUCTION

- (4) The discussion paper accompanying the draft LAP for radio services in the Canberra area of the Illawarra, South East NSW and the ACT region is published in a streamlined format. It conforms to government requirements for Regulation Impact Statements in accordance with the Office of Regulation Review publication entitled *A Guide to Regulation*, First Edition: October 1997.
- (5) While the format of the discussion paper has changed, making the information more specifically relevant to a particular market, the ABA has not changed its reasoning process for deciding whether to make new services available. The details of the reasoning process can be found in the publication, *The ABA's General Approach to Planning*, which should be read in conjunction with discussion papers.
- (6) *The ABA's General Approach to Planning* became available in July 1997, and sets out in detail the approach taken by the ABA in planning new services in a market. It also contains information on the assumptions the ABA makes during the planning process and any technical considerations which are relevant to all markets.
- (7) This discussion paper on the planning of radio services for the Canberra market sets out the ABA's initial position and canvasses several options on planning radio services in the market, based on the information available to it at this time and after having regard to the Objects of the Act and the planning criteria set out at s.23 of the Act. The paper is intended as a starting point for further discussion and to request further relevant information to assist the ABA in making final decisions for the market.
- (8) It is in the best interests of parties seeking information on the ABA's planning process and/or obtaining licences for additional services in a market to obtain a copy of *The ABA's General Approach to Planning* from Freecall 1800 810 241, or through the ABA Internet home page on <http://www.aba.gov.au> (select Planning option). Submissions should be framed according to the information requirements detailed in the booklet, addressing the criteria at s.23 of the *Broadcasting Services Act 1992*, and the objects of

the same Act. The ABA expects that interested parties will provide the ABA with any additional information necessary to make a decision.

TECHNICAL SPECIFICATIONS

- (9) **Broadcasters are required to provide their services in accordance with the technical conditions contained in an apparatus licence. These technical conditions must reflect the technical specifications contained in the LAP and the associated *Technical Planning Guidelines (TPGs)*.**
- (10) **The technical specifications in the LAP for each service specify a nominal site, and the TPGs contain provisions relating to siting a facility other than at the nominal site. The planning scheme under the *Broadcasting Services Act 1992* will permit a site tolerance away from the nominal site shown in the LAP, but only if the proposed site passes certain mandatory conditions as specified in the TPGs, which are enforced under s.109 of the *Radiocommunications Act 1992*. In essence, the TPGs will require that the licensee should ensure any proposed transmission from a new site would not cause interference to radiocommunication services, and would not cause interference to, or preclude altogether, any broadcasting service using a planned or operating broadcasting channel.**
- (11) ***Important!***

Beyond the limited flexibility provided in the TPGs concerning transmitter siting there will be no opportunity to vary the technical specifications until the LAP is revisited, which may not be for several years. Therefore, it is vital that licensees and aspirant broadcasters carefully check relevant technical specifications contained in the draft LAP and submit proposals to the ABA, before finalising that LAP, if changes appear necessary.

CALL FOR PUBLIC SUBMISSIONS

- (12) The ABA is aware that some of the information available to it in relation to planning for radio services in the Canberra area may be dated. Accordingly, the ABA is seeking confirmation from interested parties in providing radio services in the Canberra area, or from affected parties. The matters considered by the ABA in planning radio services are outlined in *The ABA's General Approach to Planning*.
- (13) The ABA is seeking public comment on that draft LAP including specific comment on the technical specifications proposed in the draft LAP together with further information from aspirant service providers where indicated.

PLEASE FORWARD YOUR SUBMISSIONS TO:

Planning Officer for R9 Canberra Area,
Australian Broadcasting Authority,
PO Box 34,
BELCONNEN ACT 2616,

by 26 November 1998 quoting file reference 97/5420.

All submissions received will be made available for public inspection¹. Therefore, any submission marked 'In confidence', 'Confidential' or similar, cannot be considered by the ABA in finalising the LAP.

¹ As required by s27(2) of the *Broadcasting Services Act*.

OBJECTIVES

(14) In performing its planning functions under Part 3 of the Act, the ABA must promote the economic and efficient use of the radiofrequency spectrum, and have particular regard to the objects of the Act, and to the planning criteria set out in section 23 (a - g) of the Act (see Chapters 2 and 3, pp.3-17, of *The ABA's General Approach to Planning*).

OPTIONS

The following options are presented for consideration and comment. Each option is discussed in the next section of this paper, entitled - *Impact Analysis*. That section provides information on how the ABA reached these options.

Option 1 In accordance with the Minister's notification of 21 November 1997, channel capacity will be reserved for all additional and existing national radio services in the Canberra area, as follows:

Area	Nominal Site	Frequency	Maximum Effective Radiated Power or Cymomotive Force (ERP or CMF)
Canberra	MF site Gungahlin	666 kHz	880 V
	MF site Gungahlin	846 kHz	1.25 kV
	MF site Gungahlin	1440 kHz	440 V
	Black Mountain	101.5 MHz	80 kW
	Black Mountain	102.3 MHz	80 kW
	Black Mountain	105.5 MHz	80 kW
Tuggeranong	Tuggeranong Hill	90.9 MHz #	100 W
	Tuggeranong Hill	91.7 MHz #	100 W
	Tuggeranong Hill	95.1 MHz #	100 W

denotes additional services

Option 2 Channel capacity will continue to be made available for the existing Canberra commercial radio service **2CA**. The service will continue to transmit from a nominal transmitter site at Mitchell on 1053 kHz with a maximum CMF of 965 V.

Channel capacity will continue to be made available for the existing Canberra commercial radio service **2CC**. The service will continue to transmit from a nominal transmitter site at Gungahlin on 1206 kHz.

In order to improve reception and coverage of 2CC on 1053 kHz during the day, the technical specifications of this service are proposed to be changed to permit day/night switching, using an omnidirectional pattern during the day with a maximum of 700 V CMF, and resuming a directional pattern at night with a maximum CMF of 908 V.

Channel capacity will continue to be made available for the existing Canberra commercial radio service **1CBR**. In order to improve coverage and reception in the area, channel capacity for a transmitter associated with the 1CBR commercial radio service will be made available in Tuggeranong. The service is planned to operate as follows:

Area	Nominal Site	Frequency	Maximum ERP
Canberra	Black Mountain	106.3 MHz	20 kW
Tuggeranong	Tuggeranong Hill	95.9 MHz #	100 W

denotes additional transmitter

Channel capacity will continue to be made available for the existing Canberra commercial radio service **2ROC**. In order to improve coverage and reception in the area, channel capacity for a transmitter associated with the 2ROC commercial radio service will be made available in Tuggeranong. The service is planned to operate as follows:

Area	Nominal Site	Frequency	Maximum ERP
Canberra	Black Mountain	104.7 MHz	20 kW
Tuggeranong	Tuggeranong Hill	94.1 MHz #	100 W

denotes additional transmitter

To more accurately reflect the existing coverage of the four licensed commercial radio services, their licence areas are proposed to be extended to include Bungendore, the unserved area between Bungendore and Yass adjacent to the Goulburn commercial radio licence area, and the Uriarra Forestry Settlement, Tidbinbilla and Tharwa to the south west.

The extended licence areas of the commercial radio services 1CBR, 2CA, 2CC and 2ROC will be defined using 1996 Census boundaries.

Option 3 Channel capacity will be made available for either an additional (ie fifth) commercial radio service or an open narrowcasting service in the **Canberra** area. The ABA is seeking comment specifically on this choice.

Should a licence for a fifth commercial radio service in **Canberra** be made available for allocation, the service is planned to operate as follows:

Area	Nominal Site	Frequency	Maximum ERP
Canberra	Black Mountain	98.3 MHz	20 kW
Tuggeranong	Tuggeranong Hill	92.5 MHz	100 W

The licence area of a new Canberra commercial radio service would be identical to the extended licence areas of the existing commercial radio services 1CBR, 2CA, 2CC and 2ROC, and will be defined using 1996 Census boundaries

Alternatively, channel capacity may be made available for open narrowcasting radio services at **Canberra** and **Tuggeranong**. The services are planned to transmit from:

Area	Nominal site	Frequency	Max ERP	Radius
Canberra	Black Mountain	98.3 MHz	20 kW	50 km
Tuggeranong	Tuggeranong Hill	92.5 MHz	100 W	8 km

Option 4 In order to overcome reception and coverage deficiencies within its licence area, channel capacity may be made available for the AM community radio service **2XX** Canberra to convert to the FM band. If 2XX takes up the option to convert, the service is planned to transmit on 100.7 MHz from a nominal transmitter site at Black Mountain, with a maximum ERP of 20 kW. A simulcast period of 28 days on both the AM and FM bands will be permitted.

Cessation of operation on the AM band must occur no later than 12 months after the date of publication of the Gazette notice (as required by s.35 of the *Broadcasting Services Act 1992*) that the Canberra radio LAP has been determined.

Option 5 In accordance with the Ministerial Notice of Reservation of 29 October 1993, channel capacity will be reserved for the existing Canberra AM community radio service **2XX**. In order to improve coverage and reception in the area, channel capacity for a transmitter associated with the Canberra community radio service 2XX will be made available in Tuggeranong. The service is planned to operate as follows:

Area	Nominal Site	Frequency	Maximum ERP or CMF)
Canberra	Kaleen	1008 kHz	171 V
Tuggeranong	Tuggeranong Hill	90.1 MHz	100 W

To more accurately reflect the community of interest ties and the proposed increased coverage of community radio service 2XX, its licence area is proposed to be extended to include the town of Yass, and the areas surrounding Mt Boambolo, Wattle Park and Brindabella, and will be defined using 1996 Census boundaries.

Option 6 In accordance with the Ministerial Notice of Reservation of 29 October 1993, channel capacity will be reserved for the existing Canberra community radio service **1RPH**. The service transmits on 1125 kHz from a nominal transmitter site at Gungahlin with a maximum CMF of 591 V.

To more accurately reflect the community of interest ties of the community radio service 1RPH, its licence area is proposed to be varied to be the same as the extended community radio service 2XX, and will be defined using 1996 Census boundaries.

Option 7 In accordance with the Ministerial Notice of Reservation of 29 October 1993, channel capacity will be reserved for the existing Canberra FM community radio service, **1SSS**. In order to improve coverage and reception in the area, channel capacity for a transmitter associated with the 1SSS community radio service will be made available in Tuggeranong. The service is planned to operate as follows:

Area	Nominal Site	Frequency	Maximum ERP
Canberra	Black Mountain	103.9 MHz	20 kW
Tuggeranong	Tuggeranong Hill	93.3 MHz	100 W

To more accurately reflect the community of interest ties of the existing community radio service 1SSS, its licence area is proposed to be varied to be the same as the extended 2XX licence area, and will be defined using 1996 Census boundaries.

Option 8 The ABA proposes to make channel capacity available for two additional (ie fourth and fifth) community radio services in **Canberra**. Channel capacity will be made available for transmitters associated with these proposed community radio services in Tuggeranong. The services are planned to operate as follows:

Area	Nominal Site	Frequency	Maximum ERP
Canberra	Black Mountain	99.1 MHz	20 kW
Tuggeranong	Tuggeranong Hill	88.5 MHz	100 W
Canberra	Black Mountain	99.9 MHz	20 kW
Tuggeranong	Tuggeranong Hill	89.3 MHz	100 W

The licence areas of these additional community radio services will be the same as the extended licence areas of the existing community radio services 2XX, 1SSS and 1RPH, and will be defined using 1996 Census boundaries.

Option 9 The ABA proposes to make channel capacity available for a new community radio service in **Queanbeyan**. The service is planned to operate on 96.7 MHz from a nominal transmitter site at Mt Jerrabomberra, with a maximum ERP of 500 W.

The licence area will be defined using 1996 Census boundaries.

Option 10 Should the 2XX option of AM-FM conversion be taken up, the ABA may consider making channel capacity available for an AM radio service in the **Canberra** area on the channel vacated by 2XX.

If capacity is made available, the service is planned to operate on 1008 kHz from a nominal transmitter site at Kaleen at a maximum CMF of 171 V. For planning purposes the nominal coverage of the service will be considered to be a radius of 40 km around the nominal transmitter site.

Option 11 The ABA proposes to make channel capacity available for one open narrowcasting radio service in the **Queanbeyan** area.

The service is planned to operate on 92.1 MHz at a maximum ERP of 500 W from a nominal transmitter site at Mt Jerrabomberra. For planning purposes the nominal coverage of the service will be considered to be a radius of 10 km around the nominal transmitter site.

Option 12 The ABA proposes to make channel capacity available for one open narrowcasting radio service in the **Williamsdale** area.

The service is planned to operate on 107.7 MHz at a maximum ERP of 100 W from a nominal transmitter site at Williamsdale. For planning purposes the nominal coverage of the service will be considered to be a radius of 8 km around the nominal transmitter site.

Option 13 The ABA proposes to make channel capacity available for one open narrowcasting radio service in the **Yass** area.

The service is planned to operate on 107.9 MHz at a maximum ERP of 100 W from a nominal transmitter site at Mount Manton. For planning purposes the nominal coverage of the service will be considered to be a radius of 8 km around the nominal transmitter site.

Option 14 The ABA proposes to vary the frequency allotment plan (FAP) for the MF-AM Band and the VHF-FM Band to reflect the above options.

Process for allocation of licences

(15) For commercial services planned in the LAP, service providers will be determined by use of a price-based allocation system under s.36 of the *Broadcasting Services Act 1992*. Applicants for commercial broadcasting licences should be aware that a reserve price applies to the licence and that applicants will be required to pay a non-refundable application fee for each licence.².

(16) For community services planned in the LAP, the ABA will select the service providers according to the procedures set out in Part 6 of the *Broadcasting Services Act 1992* and

² The reserve price is specified by the ABA on or before the closing date and time for applications. The amount of the non-refundable application fee is set by the ABA prior to announcing commencement of the price-based allocation system for commercial licences. These amounts are subject to change.

having regard to the matters set out at s.84 of the Act. Only not-for-profit Australian companies that represent community interests are eligible to hold these licences.

- (17) For open narrowcasting services planned in the LAP, channels will be made available under s.34 of the *Broadcasting Services Act 1992*, for a minimum period of five years, and the service providers will be determined by use of a price-based allocation system under s.106 of the *Radiocommunications Act 1992*. Potential open narrowcasting service providers should be aware that a reserve price applies to the licence and that applicants will be required to pay a non-refundable application fee for each licence.³

IMPACT ANALYSIS

DISCUSSION

- (18) The matters to be discussed are the criteria set out in s.23 (a)-(g) of the Act. Also discussed are the options. An index of specific advice considered in development of the draft LAP is provided at Appendix 1, and an index of submissions is provided at Appendix 2. Appendix 3 sets out the proposed assignment of channels planned for the Canberra area and Appendix 4 details the technical restraints relating to the Canberra area.

Existing services - Frequencies in use in the Canberra area -

Table 1 - Existing radio services in the Canberra licence area (grouped by category of service)

Frequency	Area	Callsign	Category	Maximum CMF or ERP
666 kHz	Canberra	2CN	National	880 V
846 kHz	Canberra	2RN	National	1250 V
1440 kHz	Canberra	2PB	National	440 V
101.5 MHz	Canberra	2JJJ	National	80 kW
102.3 MHz	Canberra	2ABCFM	National	80 kW
105.5 MHz	Canberra	2SBS	National	80 kW
1053 kHz	Canberra	2CA	Commercial	965 V
1206 kHz	Canberra	2CC	Commercial	908 V
104.7 MHz	Canberra	2ROC	Commercial	20 kW
106.3 MHz	Canberra	1CBR	Commercial	20 kW

³ The reserve price is specified by the ABA on or before the closing date and time for applications. The amount of the non-refundable application fee is set by the ABA prior to announcing commencement of price-based allocation of transmitter licences to provide open narrowcasting services. These amounts are subject to change.

Frequency	Area	Callsign	Category	Maximum CMF or ERP
1008 kHz	Canberra	2XX	Community	171 V
1125 kHz	Canberra	1RPH	Community	590 V
103.9 MHz	Canberra	1SSS	Community	20 kW

Demand for services in the Canberra area -

Table 2 -Proposals received seeking to provide, or supporting additional commercial services

Submitter	Date	Document Number	Synopsis
2KY Racing Radio	14/9/95	95/8190	Interest in providing an open narrowcasting or alternatively commercial racing radio service in Canberra and throughout NSW.
Radio Canberra Pty Ltd (2CC)	27/10/95	95/8769	Proposing that the 3 FM channels available in Canberra should all be for commercial radio. ⁴
SMFM: SATELLITE/MULTICASTING/FM (now Capital Media ACT Pty Ltd) ⁵	14/10/95	95/8596-03	Interest in establishing a new and independent medium power commercial or open narrowcasting radio service in Canberra.
SMFM: SATELLITE/MULTICASTING/FM (now Capital Media ACT Pty Ltd) ⁶	20/3/95	95/6104	Requesting a medium power commercial or open narrowcasting service at Queanbeyan.

Table 3 - Proposals received seeking to provide open narrowcasting services

Submitter	Date	Document Number	Synopsis
2KY Racing Radio	14/9/95	95/8190	Interest in providing an open narrowcasting or alternatively commercial racing radio service in Canberra and throughout NSW.
AAA Australia Announce Archive	28/11/96	96/4422-01	Interest in providing a 10-20 W FM open narrowcasting service in Canberra and Wollongong.

⁴ In July 1997 2CC reversed this view - see submission 97/6705.

⁵ Submission is now in the name of Capital Media ACT Pty Ltd, formerly known as CAPCOMM Pty Ltd, SMFM:SATELLITE/MULTICASTING/FM and InfoRadio. See file note of 1/12/1997, Index of Specific Advice, Appendix 1.

⁶ *ibid.*

Submitter	Date	Document Number	Synopsis
CAPCOMM Pty Ltd; SMFM: SATELLITE/ MULTICASTING/FM Austouradio Ltd ⁷ (now Capital Media ACT Pty Ltd)	21/7/95	96/3354	Advising that CAPCOMM seeks 2 medium powered open narrowcasting frequencies in ACT region; SMFM seeks 2 medium powered frequencies for open narrowcasting services in Queanbeyan, Snowy Mountains, Hume highway in NSW & VIC, & Illawarra; AUSTOURADIO wants 4 open narrowcasting frequencies to be made available in all areas & some mid powered open narrowcasting frequencies to replace existing low power open narrowcasting network.
Capital Media NSW Pty Ltd	2/2/97	97/5278	Advising change of name of submitter: SMFM: SATELLITE/MULTICASTING/FM is now Capital Media NSW Pty Ltd. Change to tech specs of proposed services in Queanbeyan, Cooma, Williamsdale, Jindabyne, Thredbo and Perisher.
Gay & Lesbian Assoc of Australia	24/11/97	97/8008	Interest in providing a 10-20 W ONC service in Canberra from Black Mountain on 89.9 with 15-20 km radius.
InfoRadio Australia ⁸ (now Capital Media ACT Pty Ltd)	25/3/96	96/1581	Advising that submissions made regarding the R9 zone by SMFM (Southern Highlands, Goulburn, Yass, Queanbeyan, & Snowy Mountains) should be altered to reflect that the submitter is now InfoRadio Australia.
Phillips Fox, lawyers obo Rete Italia	11/6/98	98/6588	Seeking to provide its existing off-band ONC services on broadcasting services band spectrum. Would prefer a new category of licence - 'ethnic commercial'.
SMFM: SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd) ⁹	13/2/95	95/5490-11	Proposing a regional tourism narrowcasting service to serve the Hume Highway corridor in the Yass District.(Illawarra, SE NSW, ACT)
SMFM: SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd) ¹⁰	13/2/95	95/5490-12	Proposing a regional tourism narrowcasting service to serve the Queanbeyan area.(Illawarra, SE NSW, ACT)

⁷ Submission is now in the name of Capital Media ACT Pty Ltd, formerly known as CAPCOMM Pty Ltd, SMFM:SATELLITE/MULTICASTING/FM and InfoRadio. See file note of 1/12/1997, Index of Specific Advice, Appendix 1.

⁸ ibid.

⁹ ibid.

¹⁰ ibid.

Submitter	Date	Document Number	Synopsis
SMFM: SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd) ¹¹	20/3/95	95/6104	Requesting a medium power open narrowcasting or commercial service at Queanbeyan.
SMFM: SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd) ¹²	14/10/95	95/8596-02	Transmitters for medium power open narrowcasting service at Mt Majura, NSW and Red Hill, ACT. Requesting allocation of new FM frequency for open narrowcasting.
SMFM: SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd) ¹³	14/10/95	95/8596-03	Proposing to establish a new and independent commercial or medium power open narrowcasting service in Canberra.
SMFM: SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd) ¹⁴	14/10/95	95/8596-04	Proposing 5 FM transmitters to serve Queanbeyan, Monaro Highway, Cooma, Jindabyne, Thredbo Village for regional tourism radio service.
SMFM: SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd) ¹⁵	14/10/95	95/8596-08	Interest in supplying a regional tourism FM radio service for Yass, NSW.
TJH Systems Pty Ltd	29/10/95	95/8794	Technical support for 2KY's submissions to continue its narrowcasting service on 1314 kHz at Wollongong. 30 more towns in R9 including Queanbeyan and Yass need to receive this service.
TJH Systems Pty Ltd	10/4/97	97/5932	Technical details of FM racing ONC services proposed by NSW Race Narrowcasts & 2KY. Transmitters to be sited at NTA sites at Brown Mt, Knights Hill, Mt Wandera & Black Mt.

Table 4 - Proposals received relating to community radio services

Submitter	Date	Document Number	Synopsis
2XX	14/3/95	95/6463	Proposing 2XX convert to the FM band.
2XX	26/10/95	95/8812	Proposing 2XX swap frequencies with Triple S, to go from AM to FM.
2XX	27/10/95	95/8816	Technical report AM to FM conversion.

¹¹ ibid.

¹² ibid.

¹³ ibid.

¹⁴ ibid.

¹⁵ ibid.

Submitter	Date	Document Number	Synopsis
Artsound (formerly Canberra Stereo Public Radio)	25/10/95	95/8786	Proposing additional FM frequencies be reserved for expansion of community radio services; proposing 10 kW & 100 W transmitters for its service; suggesting aspirant group in Queanbeyan be given an 'unused low power frequency', rather than compete for one of the three high power frequencies in Canberra.
Bennett, Gail	20/5/98	98/7467	Represents a country music group that is interested in establishing a local community radio service for the Tuggeranong Valley.
Canberra FM 106.3	26/10/95	95/8748	Requesting a translator frequency to improve its service to the ACT southern region (Tuggeranong Valley); opposing additional commercial services in Canberra; supporting three FM frequencies for community broadcasting services.
Community Ethnic Broadcasters Assoc	31/10/95	95/8813	Stating that if 2XX go to FM there may be no demand for another ethnic station.
Ethnic Broadcasters of ACT (EBC)	26/10/95	95/8782	Expressing interest in a local multilingual ethnic radio station, possibly as part of a 'joint operation' with other community interests.
Music Broadcast Society of New South Wales (2MBS)	11/11/97	97/7884	Expressing interest in providing a community radio service to Nowra, Canberra, Wollongong; withdrawing interest in providing a service in Ulladulla and Goulburn.
Queanbeyan Community Radio	25/10/95	95/8718	Expressing interest in becoming a permanent community broadcaster in Queanbeyan.
Radio Antenna International FM Inc	18/10/95	95/8619	Expressing interest in community radio based on youth awareness.
Radio Canberra Pty Ltd (2CC)	11/7/97	97/6705	Amendments to Oct 95 submission:- the 3 available FAP channels should be assigned to community (not commercial) services, there should not be a high power open narrowcasting service in Canberra.
Radio Rhema Canberra	27/10/95	95/8767	Proposing licensing by the ABA, on VHF-FM broadcast band.
Radio Rhema Canberra	14/9/97	97/7359	Highlighting deficient reception with its temporary transmissions on 107.1 in Tuggeranong Valley, Weston Creek & Yass.

Submitter	Date	Document Number	Synopsis
Radio Rhema Canberra	5/11/97	97/7798	Highlighting deficient reception of temporary broadcasts on 107.1 in the Kambah area.
Triple S	11/5/95	95/6722	Proposing frequency swap with 2XX at 5 kW directional on 1008 kHz.
Triple S	27/10/95	95/8770-01	Proposing a 100W translator in the Tuggeranong Valley to adequately service licence area.
Triple S	27/10/95	95/8770-02	Proposing 2XX and Triple S exchange broadcasting frequencies.
Triple S	29/1/97	97/5228	Withdrawing proposal to swap frequencies with 2XX Canberra; proposing to remain on the FM band.

Table 5 - Other proposals received relating to Canberra radio services

Submitter	Date	Document Number	Synopsis
Canberra FM 106.3 (1CBR)	26/10/95	95/8748	Opposing additional commercial services in Canberra. Supporting three FM frequencies going to community broadcasting services.
Radio Canberra Pty Ltd (2CC)	11/7/97	97/6705	Proposing that the 3 available FAP channels should be assigned to community (not commercial) services, there should not be a high power open narrowcasting service in Canberra.
Radio Canberra Pty Ltd (2CC)	4/12/97	97/8139	Opposing an additional FM commercial radio service in Canberra.

Table 6 - Proposals received relating to national radio services

Submitter	Date	Document Number	Synopsis
Australian Broadcasting Corporation (ABC)	10/11/95	95/9000	ABC supports the establishment of a Regional Radio service for Yass and surrounds. ABC recommends that the ABA make provisions for up to six national radio services at each of the locations: Bega, Wollongong, Nowra, Canberra, Goulburn, Cooma.
National Transmission Agency (NTA)	1/5/95	95/6681	NTA request changes in the FAP to accommodate the establishment of translators for national transmissions at Tuggeranong Hill

Submitter	Date	Document Number	Synopsis
National Transmission Agency	27/10/95	95/8818	NTA requests the ABA to allocate three channels at Tuggeranong Hill for ABC FM, JJJ and SBS.
Special Broadcasting Service (SBS)	1/11/95	95/8855	Requesting provision be made for future SBS radio services throughout the region, and concerned that the continued use of channel 3 by WIN will inhibit the use of 87.5 to 88.0 for low power FM narrowcasting.

OPTIONS

Option 1 - National radio services

- Submissions were received from the Australian Broadcasting Corporation (ABC)¹⁶, the National Transmission Agency (NTA)¹⁷ and the Special Broadcasting Service (SBS)¹⁸ (see Table 6 above).
- The NTA advised that it proposed to establish translator facilities for the national transmissions at Tuggeranong Hill as a result of a number of complaints regarding FM reception in the Tuggeranong Valley. The NTA also requested that the FAP be modified, as part of the LAP process to include FM transmissions from Tuggeranong Hill. In its later submission, the NTA confirmed its continuing interest in providing national radio services from Tuggeranong Hill.
- The SBS requested that provision be made for future SBS radio services throughout the Canberra area.
- The Ministerial Notification of Reservation of 21 November 1997 includes requests for reservation of channel capacity for three AM and three FM services in Canberra. These services are already operating. The notification also included requests for reservation of channel capacity for three FM services in Tuggeranong.

(19) The ABA recognises that terrain shielding and reflections affect reception in the Tuggeranong area and given the significant increase in the size of the population now residing in the area, there is a need for frequencies for additional transmitters for all FM radio services at Tuggeranong. Frequencies for three national FM services in Tuggeranong are available and have been planned - 90.9, 91.7 and 95.1 MHz. (Frequencies for commercial and community radio services have also been planned - see discussion relating to Options 2 and 3 (commercial) and Options 4 to 10 (community).) Technical restraints affecting these frequencies are discussed at Appendix 4.

¹⁶ Submission 95/9000 dated 13/11/95.

¹⁷ Submission 95/6681 dated 1/5/95; and 95/8818 dated 27/10/95.

¹⁸ Submission 95/8855 dated 1/11/95.

(20) *It should be noted that electromagnetic compatibility (EMC) checks reveal that there is a possibility of 91.7 MHz, the frequency assigned to the proposed 2ABCFM Tuggeranong transmitter, causing fifth harmonic interference to a receiver belonging to the AFP. Therefore, a coordinated test transmission with the AFP service is recommended. It will be the responsibility of the licensee to eliminate or minimise such interference to an acceptable degree.*

- In its submission, the ABC stated that Yass is served by national radio services from Canberra by 2CN, 2RN, 2PB, ABC Classic FM and Triple J. It went on to say that it supports the establishment of a Regional Radio service for Yass and surrounds.

(21) The ABA plans for new national services only where the Minister has notified the ABA to reserve additional capacity. As Yass does not appear on the Minister's list of 21 November 1997, the ABA will not take any action in regard to this matter at this time.

Table 7 - Proposals received relating to existing commercial radio services

Submitter	Date	Document Number	Synopsis
Austereo Limited (2ROC)	19/10/95	95/8648	Requesting to retransmit 104.7 to the Tuggeranong Valley area on 94.7 MHz..
Canberra FM 106.3 (Capital City Broadcasters Pty Ltd - 1CBR)	26/10/95	95/8748	Requesting a translator frequency, preferably 106.7 MHz, to improve its service to the southern region of the ACT (Tuggeranong Valley).
Radio Canberra Pty Ltd (2CC)	27/10/95	95/8769	Opposing any changes to their licence area, but supporting its technical specifications being changed to omni directional with an output power of 5 kW.
Radio Canberra Pty Ltd (2CC)	11/7/97	97/6705	Amending Oct 95 submission:- 2CC has reception difficulties in parts of its licence area.
Radio Canberra Pty Ltd (2CC)	4/12/97	97/8139	Seeking power increase to 5 kW omnidirectional (OD) day & 5 kW directional (DA) night - otherwise 10 kW DA day & 5 kW DA night

Option 2 - Existing commercial radio services in Canberra.

Power increase for 2CC

- The licensee of Radio Canberra Pty Ltd¹⁹ has sought an increase in CMF from 5 kW directional at all times to 5 kW omni directional day time and 5 kW directional night time (see Table 7, page 18 above).

¹⁹ Submission 97/8139 dated 4/12/97.

- (22) The ABA accepts that there is a problem with day-time coverage in the northern parts of Canberra and this change in pattern will enable 2CC to improve this. It is also expected that the signal strength will fall slightly in Yass and rise in Bungendore.
- (23) Additionally, the ABA believes that the changed coverage resulting from a change to an omni-directional antenna radiation pattern during the day, should not impact on any adjacent channelled services in nearby markets (in this case, 1215 kHz in Bowral - currently a transmitter associated with 2ST which may be made available for open narrowcasting use when 2ST moves its Bowral transmission to the FM band) (see discussion in option 10 of the Nowra discussion paper.).

Additional transmitters in Tuggeranong for 1CBR and 2ROC

- The licensees of Austereo Limited (2ROC)²⁰ and Capital City Broadcasters Pty Ltd (1CBR)²¹ each sought additional frequencies for transmitters to serve the Tuggeranong Valley. 2ROC (operating on 104.7 MHz) sought to use 94.7 MHz for its service in Tuggeranong, and 1CBR (operating on 106.3 MHz) sought to use 106.7 MHz (see Table 7, page 18).
- (24) The ABA recognises that terrain shielding and reflections affect reception in the Tuggeranong area and given the significant increase in the size of the population now residing in the area, there is a need for frequencies for additional transmitters for all FM radio services at Tuggeranong. Frequencies for the two existing FM commercial radio services have been planned - 94.1 and 95.9 MHz. (Frequencies for national and community radio services have also been planned - see discussion relating to Options 1 (national) page 17, and Options 4 to 10 (community) pages 24 to 32.) Technical restraints affecting these frequencies are discussed at Appendix 4, Paragraphs 20, 21, 36, 37, 40 and 41, pages 45 to 48.
- (25) The need to find a large group of frequencies for transmitters at Tuggeranong, and concerns of interference between these and main station services, has meant that neither 94.7 MHz nor 106.7 MHz can be assigned for use in Tuggeranong.

Change of licence area for 2CA, 2CC, 1CBR and 2ROC

- (26) As all commercial and community radio services in Canberra serve essentially similar geographical communities, and thus have the same community of interest ties, the ABA proposes to vary the licence areas of all commercial and community radio services such that they will be the same as each other.
- (27) The licence areas of all existing commercial radio services are proposed to be extended to include the area between Bungendore and Yass adjacent to the Goulburn commercial radio licence area, and the area surrounding the Uriarra Forestry Settlement and Tidbinbilla.

²⁰ Submission 95/8648 dated 19/10/95.

²¹ Submission 95/8748 dated 26/10/95.

(28) These areas are within the existing signal coverage of these services and the audience in these areas now forms part of the community of interest and part of the media market of the Canberra licence area. The ABA therefore proposes to include these areas within the licence area of the Canberra commercial radio services.

Option 3 - Additional commercial radio service with an associated transmitter, or new open narrowcasting services in Canberra and Tuggeranong.

- Submissions relating to Option 3 are at Table 3 page 12, Table 5 page 16 and Table 7 page 18.
- An expression of interest from 2KY Racing Radio to provide open narrowcasting services in Canberra, Queanbeyan and Yass or alternatively a commercial radio service in the Canberra area has been received²²:

In the South Coast and SE NSW Canberra region of the Zone we believe that F.M. frequencies are available and again submit that a narrowcast frequency should be preserved for race broadcasting.

However, if the Authority were to confine the planning process to the allocation of commercial licences due to spectrum constraints, I must point out that 2KY Broadcasters Pty Ltd would be capable of presenting a comprehensive broadcast program incorporating elements of Racing Radio, as it currently does in the Sydney region and would be a participant in any allocation process conducted by the Authority in respect of commercial licences.

- Interest in providing two *medium* power commercial or open narrowcasting radio services - in Queanbeyan and Canberra (from Red Hill) - has been expressed by Capital Media ACT Pty Ltd²³.
- Although later submissions argued against new commercial licences being made available for allocation in Canberra, Radio Canberra Pty Ltd (2CC) initially argued for new commercial radio services and against high power open narrowcasting services in Canberra:

Radio Canberra Pty Ltd submits that all 3 available FM channels shown in the Frequency Allotment Plan should be made available for new Commercial FM services in Canberra.

Radio Canberra Pty Ltd formally advises the Australian Broadcasting Authority that we would seek to obtain under the allocation process one or more of these channels to operate new commercial FM Radio services in Canberra.

It is our belief that the other two commercial Radio operators in Canberra could also each be interested in providing an additional commercial FM Radio service.

Accordingly, due to this demand for new commercial FM Radio services and the demand for new community FM Radio services we believe that the Australian Broadcasting Authority should make available additional VHF FM Band channels...

7.4 Narrowcast Broadcasting Services

²² Submission 95/8190 dated 14/9/95.

²³ Submission 95/6104 (Queanbeyan) dated 20/3/95, and submission 95/8596-03 (Red Hill) dated 15/7/95.

Radio Canberra Pty Ltd submits that due to the expected high demand for new commercial and community Radio services in Canberra **no** allocation for high power narrowcast services should be made in the Canberra licence area plan.

7.5 New FM Radio Services Nominal Location

Radio Canberra Pty Ltd submits that consideration should be given by the Australian Broadcasting Authority when licensing new FM Radio services for Canberra to allow the option to locate those services at sites other than the existing FM Radio site of Black Mountain.

The present site is owned by Telstra Australia and is operated by the National Transmission agency.

The cost of leasing facilitates at this site is considerably higher than in comparison to privately owned sites.²⁴

- Submissions arguing against a new commercial radio licence for the Canberra area being made available for allocation were received from the existing broadcasters, 1CBR and 2CC. 2CC also reiterated its opposition to high power open narrowcasting services being made available in the Canberra area.
- Capital City Broadcasters Pty Ltd (1CBR) in its submission²⁵ stated:

Our company believes that the Canberra Region is well served by the four (4) Commercial Radio Licensees, as they continue to provide a diversity of programming options that are well supported by the current national and community services.

Furthermore, any additional allocation of Broadcast Frequencies to the Commercial sector will place the commercial viability of the present Operators at risk, given the market size and current economic difficulties faced.

- Two submissions were received from Radio Canberra Pty Ltd (2CC) opposing an additional commercial radio service in Canberra due to depressed economic conditions in the Australian Capital Territory.
- Radio Canberra Pty Ltd (2CC), in its submission of 11 July 1997, stated:

Radio Canberra Pty Ltd submits that all 3 available FM channels shown in the Frequency Allotment Plan should be made available for new community FM services in Canberra.

Radio Canberra Pty Ltd formally advises the Australian Broadcasting Authority that following its recent purchase of Radio 2CA Canberra the present Broadcasting Services Act does not allow our company to own any further commercial Radio licences in Canberra.

Accordingly, we would not be seeking the grant of any new FM commercial Radio service in Canberra.

As it is almost two years since we lodged our original submission to the Australian Broadcasting Authority and nearly three years since we purchased Radio 2CC Canberra...It is now our belief that the Canberra radio market cannot support any additional commercial Radio service.

²⁴ Submission 95/8769 dated October 1995.

²⁵ Submission 95/8748 dated 26/10/95.

Our recent purchase of Radio 2CA Canberra was undertaken to enable rationalisation of the market and hopefully to enable us to gain some operational cost benefits from operating two stations in the Canberra market as opposed to one. We have found it extremely difficult to date with a single commercial AM station in Canberra.

The Australian Broadcasting Authority would also be aware of the huge economic downturn which has occurred and is still occurring since a change of Federal Government in March 1996...The Australian Capital Territory is presently described as being in a "recession" and it is our expectation that this level of poor economic activity will continue for many years prior to recovery.

We also note that there has been an enormous amount of interest by prospective new community FM Radio services for the Australian Capital Territory and at this point in time the best use of the three available FM Radio services would be for this purpose.

7.4 Narrowcast Broadcasting Services

Radio Canberra Pty Ltd submits that due to the expected high demand for new community Radio services in Canberra **no** allocation for high power narrowcast services should be made in the Canberra licence area plan.²⁶

- In its later submission of 4 December 1997, Radio Canberra Pty Ltd (2CC) repeated its opposition to an additional FM commercial radio service in Canberra:

This further submission states our company has no desire for an additional FM commercial radio service in Canberra.²⁷

- (29) The characteristics of the Canberra commercial radio market considered by the ABA are as follows:
- (30) At Census 1996, the estimated population of the Canberra commercial radio licence area was 337,626 persons, an increase of about 27,000 in the population figures recorded at the Census in 1991 (310,475 persons).
- (31) Relative to total Australia, the ACT contains a broadly comparable percentage of people who speak a language at home other than English.
- (32) At Census 1996, the ACT region had a lower percentage of Aboriginal and Torres Strait Islander people than Australia as a whole.
- (33) At Census 1996, the median weekly household income within Canberra (\$906) was higher than the Australian median (\$635), the NSW median (\$655) and higher than the median household income for 'NSW Major Urban'(\$734).
- (34) Other matters considered include the following:
- (35) With regard to the ABA's determination of the population of licence areas under s30 of the Act, the Canberra commercial radio licence areas do not overlap with those of any adjacent commercial radio market.

²⁶ Submission 97/6705.

²⁷ Submission 97/8139.

- (36) The Canberra commercial radio market currently supports two AM and two FM commercial radio services, in addition to six national and three community radio services. The ABA considers it likely that, among a population of 337,626 persons within the licence area, Canberra may contain demand for an additional commercial or high power open narrowcasting radio service.
- (37) Regarding the concern expressed by 2CC in October 1995 that the transmitter site for any new FM radio service in Canberra should be at a site other than Black Mountain, the existing FM radio site, the ABA endeavours to plan services for an area such that services are co-located. The transmitter sites specified in a LAP are *nominal* only, with operation from alternative sites being permitted provided the change of site procedure outlined in the ABA's *Technical Planning Guidelines* is adhered to.
- (38) Due to poor reception of all existing Canberra FM radio services in the Tuggeranong area caused by terrain shielding and reflections, and in recognition of the demographic developments of increased residents in the area, frequencies for transmitters in Tuggeranong associated with the existing services have been planned. (See Option 1 (national) page 17, Option 2 (commercial) page 18, and Options 5 and 7 (community) page 26.) Similarly, channel capacity for a Tuggeranong transmitter associated with a new FM commercial radio service, or alternatively, an open narrowcasting service for the Tuggeranong area (Option 3, page 20), has been planned.
- (39) In the absence of any compelling evidence to the contrary, the ABA will place some weight on expressions of interest from persons with a successful track record in managing a broadcasting service in a competitive market, or from persons who express a serious interest and are able to provide evidence that they will be able to readily access such knowledge, when considering whether making an additional commercial radio licence available in an area would be likely to promote the Objects of the Act.

Summation

- (36) The current market supports four commercial and four community radio services and the Census data indicates that the demographics are such that either a commercial or open narrowcasting service is appropriate. However, the ABA considers that open narrowcasting services in Canberra and Tuggeranong, rather than an additional (fifth) commercial radio service in Canberra, may be preferable in the Canberra market as:
- there appears to be much greater demand for open narrowcasting services by potential operators; and
 - on balance, the ABA considers it is more likely to promote diversity in the range of services offered in a market with a relatively large number of existing services.
- (37) **The ABA seeks additional information from potential service providers to assist in finalising a decision for an additional (ie fifth) commercial radio service or open narrowcasting radio services in the Canberra market. The ABA requests that potential service providers address the following questions:**

- | |
|---|
| <p>a) <i>Whether and in what way providing a fifth commercial radio broadcasting service or open narrowcasting services in the Canberra market would represent an economic and efficient use of the radio frequency spectrum;</i></p> <p>b) <i>Whether or not any additional commercial radio service you propose to provide would offer signal coverage at least comparable to existing services;</i></p> <p>c) <i>The likely impact of any increase in the number of services on diversity in the range of services offered and the overall level of programming in the area covering matters of local significance;</i></p> <p>d) <i>Information and supporting evidence about your capability to provide a commercial radio service;</i></p> <p>e) <i>Whether sufficient capital is currently or potentially available to you to commence and continue to provide a fourth commercial radio service in accordance with the technical specifications proposed in the draft LAP; and</i></p> <p>f) <i>Whether your interest is contingent in any way.</i></p> |
|---|

Option 4 - Conversion to the FM Band for existing community radio service 2XX

- The licensee of the 2XX community radio service has requested a change from AM to FM transmission:

... we draw your attention to the submissions from various community groups urging that a conversion for 2XX be the ABA's first priority in this area.

You will note that the former ACT government strongly supported 2XX's case. We are pleased that the current government is also supporting 2XX's conversion to FM. ...

2XX has suffered from insufficient power since it was the first 'C' Community class public broadcasting licence issued in 1978. Community Radio 2XX is restricted to 300 watts, commercials broadcast 2.5 to 5 kilowatts. ...

As long ago as 1978 the Department of Communications acknowledged the problem of 2XX's low power and inadequate reception.

2XX Licence Area Plan Submission - Technical Issues

... 2XX has always experience severe reception difficulties. Listeners in our service area have often reported that reception is faint, noisy, unlistenable especially at night or simply unreceivable.

... many 2XX listeners have remarked that reception has gotten subjectively weaker over the last decade in spite of more advanced audio processing and maintenance of our field strength in general. Man-made interference has undoubtedly increased as well.

... our technical operating conditions on AM are hopelessly inadequate to deliver a receivable signal to our service area. ... In effect we can only deliver a useable signal to North Canberra and the inner south suburbs. Queanbeyan Weston Creek, much of Woden Valley and Tuggeranong miss out.

- AM Options

In [a] 1987 report *Change of Technical Operating Conditions Public Broadcasting Station 2XX ...* all the possible options to improve 2XX reception on the AM band [were canvassed. The conclusion was] that (a) an increase of AM power even to 500 Watts would cause interference to other distant broadcasters (b) that a change of site in order to transmit on 1440 kHz at 3 kW with a direction array was technically feasible. With regard to the latter, ... it would cost upwards of \$250,000. Such an expenditure is out of the question for a listener funded broadcaster like 2XX. Sharing the directional array of either one of the AM commercial broadcasters was also rejected on technical grounds. In short, we would say that 2XX does not have a future on the AM band.

- FM Conversion Option

The abovementioned report suggests two possibilities for 2XX on FM, being a translator on Tuggeranong Hill or a full conversion. We believe that a translator alone will not solve the problem. A predicted coverage map ... shows that although our southern reception can be improved, there remain many areas that would receive marginal or inadequate reception from either AM or FM. This is especially true for Queanbeyan and Weston Creek, and even the inner south ...

A much better solution is full conversion. A field strength map for SSS ... superimposed onto our service area ... [shows] the 74 mV/m and 66 mV/m contours (large city and urban areas respectively) cover adequately most of our service area. The map assumes a [nominal] radiated power of 10 kW ERP from Black Mountain. We are confident that this option will solve all our reception difficulties except in parts of the Tuggeranong Valley. Accordingly, we express our interest in having a translator on Tuggeranong Hill with similar operating conditions to those proposed by the FM commercial broadcasters.

- Conclusion

The only solution to our reception difficulties is FM conversion.²⁸

- The Ngunnawal Local Aboriginal Land Council, which provides a weekly Aboriginal program on 2XX, supports the station's conversion to the FM band:

2XX's weekly Aboriginal community program is presented by a member of the Ngunnawal community and is a vital link in our work. It is not reasonable that large parts of our community cannot hear important information and community solidarity because Community Radio 2XX's signal is not strong enough. We know that the station cannot afford to get more power on the AM band because they are a service for under-resourced communities like ours.

The Ngunnawal Land Council is a member of 2XX and we believe the co-operation of different groups in community organisation like the station where we can all get to know each other and each communities problems is vital to the cultural and social fabric of our community. It is this sort of working together that can be part of the Reconciliation. Everybody should be able to hear it and take part in it. Please consider our concerns in deciding the Licence Area Plan.²⁹

- The Community Ethnic Broadcasters Association of ACT Inc, in its submission of October 1995, also supported the conversion of 2XX to the FM band:

Our members wish to see ethnic broadcasting continue and grow stronger on general community stations like 2XX and not be divided off into separate stations. We believe that multiculturalism is best served by the whole community working together in general community organisations. Otherwise, those who speak only English do not have enough contact with other Australian cultures.

²⁸ Submission 95/8816 dated 27/10/95.

²⁹ Submission 95/8749 received 27/10/95.

If 2XX were on the FM band and had good Canberra-wide coverage, we believe there would be no demand for another ethnic station.

SBS will come to Canberra soon, providing networked national programs in many languages thus further reducing the need for a full time station. Our members strongly support the continued role of local ethnic language programs and will continue to produce local programs on 2XX.

Community Radio 2XX provides an ethnic community service that is vital to the cultural and social fabric of our community. The station's signal cannot be received clearly by some in our communities and we urge you to redress this situation by allocating an FM frequency to 2XX...³⁰

- (38) 2XX, licensed in July 1976,³¹ when all radio services in Australia operated on the AM band, was one of the first community radio services established in Australia. The service, operating on 1008 kHz, is restricted in power to 171 V CMF (about 300 W transmitter power), which, the ABA recognises, has resulted in inadequate reception in parts of its licence area.
- (39) The presence of radio stations in Brisbane (4TAB), Launceston (7EX), Geraldton (licensed open narrowcasting) and Paengaroa in New Zealand on the same frequency restricts 2XX to either operating at its current power, or to change from an omnidirectional to a directional antenna.
- (40) The problems cannot be rectified in the AM band without a high cost solution of the installation of at least one additional antenna mast.
- (41) The AM band on the east coast of Australia is severely congested. Alternative AM frequencies for 2XX that would allow an improvement in coverage (without the need to install additional antenna masts) have been sought in the past, but none have been found.
- (42) For these reasons, the ABA is proposing to allow 2XX to convert to the FM band on 100.7 MHz from a nominal transmitter site at Black Mountain, with a maximum ERP of 20 kW. (An additional transmitter for the Tuggeranong area has also been planned - see Option 5, page 27.)

Options 5, 6 and 7 - Existing community radio services in Canberra

- Submissions received relating to options 5, 6 and 7 are at Table 4, page 14.

Licence area extensions for 2XX, 1RPH and 1SSS

- (43) The Canberra FM commercial and community radio services which operate from Black Mountain, have different licence areas although they serve essentially the same geographical communities, and thus have the same community of interest ties.
- (44) In addition, the three existing community radio services: two AM - 1RPH and 2XX, and one FM - 1SSS, have different licence areas to each other. Whereas 1RPH serves the needs of the print handicapped in the Canberra area, and 1SSS those of the sporting

³⁰ Submission 95/8813 received 31/10/95.

³¹ 2XX began operating under the *Wireless Telegraphy Act*.

fraternity, 2XX is a broad-based service, designed to serve a geographic area as its community of interest.

- (45) The ABA proposes to vary the licence areas of all commercial and community radio services such that they will be the same as each other to reflect the common geographical community of interest ties.
- (46) The licence area of 2XX is proposed to be extended to include the town of Yass, and the areas surrounding Mt Boambolo, Wattle Park and Brindabella.
- (47) The licence area of the community radio service 1RPH, which is identical to that of all four Canberra commercial radio services, is proposed to be extended to include the towns of Bungendore and Yass, the area between Bungendore and Yass adjacent to the Goulburn commercial radio licence area (which includes the town of Sutton), and the area surrounding the Uriarra Forestry Settlement and Tidbinbilla (which includes the town of Brindabella).
- (48) The licence area of 1SSS is proposed to be extended to include the towns of Yass, Murrumbateman, Sutton, Bungendore, and Brindabella.
- (49) The areas proposed to be included in the licence areas of each community radio service are within the existing signal coverage of these services, and the audience in these areas now forms part of the community of interest and part of the media market of the Canberra licence area.
- (50) **The ABA is interested to receive submissions from the Canberra community radio licensees, or other interested parties, on these proposed licence area variations.**

Power increase for 1SSS

- (51) The ABA is aware that there may be problems with the reception of community radio service 1SSS in Yass. In order to allow 1SSS to adequately serve this area, without the need for an additional transmitter in Yass, the ABA proposes to increase the power of 1SSS from 16 kW to 20 kW - the same maximum power as allocated to the Canberra commercial radio services.
- (52) **The ABA is interested to receive a comment on this proposal from the licensee of 1SSS, or other interested parties, on this proposed power increase.**

Additional transmitters in Tuggeranong for 2XX and 1SSS

- The licensee of 2XX has sought an FM translator in Tuggeranong as a partial solution to its problem of inadequate coverage of its licence area due to its operation on 1008 kHz on the AM band.³²

³² Submission 95/8816 dated 27/10/95.

- The licensee of 1SSS has also requested a 100W translator in the Tuggeranong Valley to allow it to adequately service its licence area.³³
- (54) The ABA acknowledges that transmission of AM community radio service 2XX on 1008 kHz is poor in the Tuggeranong area due to the low power of the AM service, and the level of man-made noise in the area.
- (55) The ABA also recognises that terrain shielding and reflections affect reception in the Tuggeranong area and given the significant increase in the size of the population now residing in the area, there is a need for frequencies for additional transmitters for all FM radio services at Tuggeranong.
- (56) Frequencies for the community radio services 2XX and 1SSS have been planned - 90.1 and 93.3 MHz. (Frequencies for national and commercial radio services have also been planned - see discussion relating to Option 1 (national), page 17, and Options 2 and 3 (commercial, pages 18 and 20). Technical restraints affecting these frequencies are discussed at Appendix 4, Paragraphs 20, 21, 26, 27, 34 and 35, pages 45 to 47.
- (57) *It should be noted that EMC checks reveal that there is a possibility of 90.1 MHz, the frequency assigned to the proposed 2XX Tuggeranong transmitter, causing fifth harmonic interference to a receiver belonging to the ACTEW Corporation. It will be the responsibility of 2XX to eliminate or minimise such interference should it occur.*

Option 8 - Additional community radio services in Canberra

- Submissions received relating to Option 8 are at Table 4, page 14.
- Interest in providing additional community radio services in Canberra catering to special interests within the community have been expressed by:
 - 2MBS - FM³⁴ - fine music;
 - Artsound (formerly Canberra Stereo Public Radio³⁵) - music and arts;
 - Canberra Christian Radio Ltd³⁶ - religious radio;
 - Ethnic Broadcasting Council³⁷ as part of a joint operation with other community interests
 - ethnic radio (currently providing a temporary service with a Country Music Service);
 - Radio Antenna International FM Inc³⁸ - youth awareness radio;

³³ Submission 95/8770-01 dated 27/10/95.

³⁴ Submission 97/7884 dated 14/11/97.

³⁵ Submission 95/8786 dated 25/10/95.

³⁶ Submission 95/8807 dated 29/10/95.

³⁷ Submission 95/8782 dated 30/10/95.

³⁸ Submission 95/8619 dated 18/10/95.

- Representative of an emerging country music group in the Tuggeranong Valley³⁹ (Ms Gail Bennett); and
 - University of Canberra Campus Radio⁴⁰ (CUe FM 98.7) - university information and entertainment.(see Table 4, page 14)
- 2MBS which operates a community radio service in Sydney, wishes to provide a community radio service in various cities and towns throughout NSW and Canberra.
- (58) The Canberra region currently supports three community radio services. Community radio 2XX caters to the general community, community radio 1SSS caters to the sporting fraternity and community radio 1RPH serves the print handicapped.
- (59) Artsound Inc, has conducted temporary transmissions since December 1989 and is currently operating under a Temporary Community Broadcasting Licence (TCBL)⁴¹ licensed to 31 January 1999.
- (60) Canberra Christian Radio Ltd has conducted temporary transmissions since July 1992 and is currently operating under a TCBL licensed to 31 January 1999.
- (61) Canberra Multicultural Service & Country Music Service (also known as CMS Community Radio) has conducted temporary transmissions since August 1993 and is currently operating under a TCBL licensed to 31 January 1999.
- (62) Radio Antenna International FM Inc has conducted temporary transmissions since March 1995 and is currently operating under a TCBL, licensed to 31 January 1999.
- An emerging country music group represented by Ms Gail Bennett is interested in providing a local community radio service to the Tuggeranong Valley.
- (63) This group has not conducted any temporary transmissions in Canberra to date. Due to the lateness of the submission from this group, no planning of a community radio service in the Tuggeranong Valley area has been undertaken. Option 3, Paragraphs 29 to 37, pages 22 to 23, discusses the ABA's consideration of whether channel capacity should be made available for a new Canberra commercial radio service or open narrowcasting services in Canberra and Tuggeranong.
- (64) If channel capacity for an open narrowcasting service in Tuggeranong is made available, the service is planned to operate on 92.5 MHz at a maximum ERP of 100W. Technical restraints applying to the use of this frequency, as with the other frequencies planned for use by transmitters for all national, commercial and community radio services in Tuggeranong, are explained in the discussion on technical restraints, Paragraphs 20, 21, 32 and 33, pages 45 to 47 at Appendix 4.

³⁹ Submission 98/7467 dated 20/5/98.

⁴⁰ Submission 98/7627 dated 15/9/98.

⁴¹ The temporary transmissions policy has been replaced by TCBLs which came into effect in August 1997. TCBLs allow aspirant groups to operate temporary community services for up to twelve months, depending on the number of aspirant groups sharing the TCBL frequency.

(65) **The ABA would like to hear from this group about whether it would be interested in providing its country music service as an open narrowcasting service.**

(66) However, should submissions indicate that a local Tuggeranong Valley community radio service should be planned, the ABA will consult with interested parties before the final LAP for Canberra is released.

- University of Canberra Campus Radio wishes to provide a low-powered community radio service to the University of Canberra campus and within the immediate vicinity of the university.

The group has been providing a low-powered open narrowcasting radio service (LPON) on 98.7 MHz for two years. As this frequency will not be available for LPON use beyond 31 December 1998⁴², the group is looking for:

a low-powered community licence, which for all intent purposes will mean minimal change to the way in which CUe FM operates. A low-powered community licence would give the University of Canberra the benefit of continued broadcasting 24 hours a day providing the campus.⁴³

(67) Although 98.7 MHz will not be available for LPON use in Canberra, upon expiry of the licence the ABA proposes to assign the service a new frequency within the sub-band made available for LPON use throughout Australia - 87.5 - 88.0 MHz. It therefore appears that the group should be able to continue operating in its current form.

(68) Submissions demonstrate there is some public demand in Canberra for additional community radio services.⁴⁴

(69) Given the current level of demand, the ABA believes there is justification for the introduction of two new community radio services to promote diversity in the range of services.

(70) High power frequencies, together with low power frequencies at Tuggeranong for community radio broadcasting in Canberra, are likely to suit most of the needs of the community and the type of services proposed by interested aspirant broadcasters.

(71) The ABA would be interested in obtaining information from potential service providers concerning community of interest ties, and also on market conditions as set out in *The ABA's General Approach to Planning* (Chapter 4, 'Community Licence Areas', pp.22-24) to enable it to be informed in its views in relation to additional community radio services in the Canberra region.

⁴² 98.7 MHz was made available for LPON use when the ABC television service in Canberra operated on channel 3. Channel 3 occupies the part of the broadcasting band assigned to LPON services throughout Australia - ie 87.5-88 MHz. (ABC television now transmits on channel 9.)

⁴³ Submission 98/7627 dated 15/9/98.

⁴⁴ Fifty nine letters have been received in support of an additional community radio service in Canberra. (One aspirant, Radio Rhema, has advised it has received 1645 letters of support.)

(72) With the exception of the emerging country music group, the licence area of the extended 2XX community radio service against the 1996 Census boundaries is likely to be the most appropriate licence area for any additional community radio services in Canberra.

Please note:

The purpose of the draft LAP and discussion paper is to ascertain the technical requirements of aspirant broadcasters in relation to the coverage area of any proposed service. It is not about which aspirant group should be allocated proposed community radio broadcasting licences. This is determined after the LAP has been finalised, when the allocation process will consider the merits of all applicants for community radio licences made available for allocation in the LAP.

Option 9 - New community radio service in Queanbeyan

- Submissions received relating to option 9 are at Table 4, page 14.
 - There is interest from a potential community radio broadcaster, Queanbeyan Community Radio⁴⁵, in providing a community radio service in Queanbeyan.
- (73) The Queanbeyan Community Radio group has conducted temporary transmissions since 23 June 1993 is currently operating under a TCBL issued for the period to 31 March 1999.
- (74) The Queanbeyan community does not have its own community radio service.
- (75) Submissions demonstrate there is some public demand in Queanbeyan for community radio services.⁴⁶
- (76) A low power frequency for community radio broadcasting in Queanbeyan is most likely to suit the needs of the community and the type of service proposed by interested aspirant broadcasters.
- (77) Given the current level of demand, the ABA believes there is justification for the introduction of one new community radio service to promote diversity in the range of services. A frequency for this service is available and has been planned - 96.7 MHz.
- (78) *It should be noted that there is the possibility of fifth harmonic interference to some radiocommunications receivers from 96.7 MHz, the frequency assigned to the proposed Queanbeyan community radio service. The licensee is required to eliminate or*

⁴⁵ Submission 95/8718 dated 25/10/95.

⁴⁶ Eight letters have been received in support of a community radio service in Queanbeyan, including a letter from Mr Gary Nairn, Member for Eden Monaro.

minimise such interference should it occur (see comments in the Technical Restraints section, Paragraphs 46 and 47, pages 48 to 49, at Appendix 4).

- (79) The ABA would be interested in obtaining information from potential service providers concerning community of interest ties and also on market conditions as set out in *The ABA's General Approach to Planning* (Chapter 4, 'Community Licence Areas', pp.22-24) to enable it to be informed in its views in relation to a new community radio service in the Queanbeyan area.

Please note:

The purpose of the draft LAP and discussion paper is to ascertain the technical requirements of aspirant broadcasters in relation to the coverage area of any proposed service. It is not about which aspirant group should be allocated proposed community radio broadcasting licences. This is determined after the LAP has been finalised, when the allocation process will consider the merits of all applicants for community radio licences made available for allocation in the LAP.

Option 10 - Potential vacant AM channel in Canberra

- (80) It is possible that 1008 kHz will become available for an alternative use because community radio service 2XX is being offered the option to convert from the AM band to the FM band to overcome the problem of inadequate reception in outlying parts of its licence area, particularly in the south (Tuggeranong Valley). (See discussion relating to 1008 kHz at Appendix 4, Paragraph 9, page 43 - Technical Restraints.)
- (81) If 2XX takes up this option, the ABA may consider making 1008 kHz available for another radio service.
- (82) A condition of 2XX converting to the FM band is that it vacates the AM band within twelve months of the date of publication of the *Gazette* notice that the Canberra radio LAP has been determined.
- (83) The ABA is prepared to vary the technical specifications of the service so that it could operate at a higher power if detailed proposals for operation with a directional pattern are submitted for consideration. (Protection to the radio services in Brisbane (4TAB), Launceston (7EX), Geraldton (licensed open narrowcasting) and Paengaroa in New Zealand must be maintained).
- (84) **In making a decision whether to vary the technical specifications of the existing service on 1008 kHz for a new radio service in the Canberra area, the ABA requires potential service providers to address the following, for each site:**

a) How would you establish the facilities and provide a service to serve the region;

b) What category of service you wish to provide, and the reason why a service of that category should be made available in Canberra;

b) The details of the proposed site and ERP including details of the desired coverage area of the proposed facilities

Options 11, 12 and 13 - Open narrowcasting services in Queanbeyan, Williamsdale and Yass

- Submissions received relating to options 11, 12 and 13 are at Table 3, page 12.
- There is interest in providing open narrowcasting services in the **Queanbeyan, Williamsdale** and **Yass** areas expressed by Capital Media NSW Pty Ltd.
- Interest in providing an existing open narrowcasting service in Queanbeyan (on 1620 kHz) on a “better quality frequency (ie less than 1600 kHz)”, has been expressed by Rete Italia⁴⁷.
- Rete Italia further proposes:

... [the] introduction of a new category of broadcasting services or alternatively, a new sub-category of open narrowcasting services, which would better suit its characteristics and needs. The new category might best be described as “Ethnic Commercial”.

The “Ethnic Commercial” category would cater for the unique needs of open narrowcasters, such as Rete Italia. The category would bring greater certainty at a reasonable cost...

The “Ethnic Commercial” category would have the following elements:

- ... (b) Re-buying and buying licences without the auction process, the price being determined by the ABA.
- (c) The allocation of licences by the ABA would involve a consideration of:
 - . the dependence of the target group on the service;
 - . any historical performance;
 - . the apparent professionalism of the applicant.
- (d) Licence renewals would be more certain, as with commercial licences, thereby creating some security of tenure.

...the creation of a new category of broadcasting services would require legislative change. This is outside the realms of the possible in terms of submissions to the ABA.⁴⁸

(85) The ABA believes there is justification for the introduction of open narrowcasting radio services in these areas to promote diversity in the range of services.

(86) Frequencies for these services are available and have been planned - 92.1 MHz (at a maximum ERP of 500 W) in Queanbeyan, 107.7 MHz (at a maximum ERP of 100 W) in Williamsdale, and 107.9 MHz (at a maximum ERP of 100 W) in Yass.

⁴⁷ Submission 98/6588 dated 11/6/98.

⁴⁸ *ibid.*

(87) *It should be noted that EMC checks reveal that there is a possibility of 92.1 MHz, the frequency assigned to the proposed open narrowcasting service in Queanbeyan, causing fifth harmonic interference to the AFP, NSW Police, NSW Ambulance Service and other radiocommunication services. As **interference to the police and ambulance services could pose a public risk, a co-ordinated test transmission with these services is recommended.** It will be the responsibility of the licensee to eliminate or minimise such interference to an acceptable degree.*

(88) The ABA retains the power to make spectrum available for open narrowcasting or other purposes under s.34 of the Act outside of the LAP.

Option 14 - Proposed variation to the Frequency Allotment Plan

(89) The ABA proposes to vary the frequency allotment plan (FAP) for the MF-AM Band and the VHF-FM Band to reflect the options discussed above as part of the draft Canberra radio LAP.

OTHER CONSIDERATIONS

Developments in Technology

(90) Developments in current radio and television broadcast technology can have an impact on the future planning of broadcasting services. For example, developments in current technology may offer an improvement in the received quality of existing services or may allow for improved spectrum efficiency in planning for conventional radio and television services. The ABA, in consultation with national and international bodies, closely monitors developments in current broadcasting technology and evaluates its likely implications to the Australian broadcasting environment.

- Digital Radio Broadcasting (DRB)

(91) As implementation plans for DRB around the world are still under negotiation, the ABA is unable to consider in detail the impact of DRB in preparing this radio LAP.

(92) On 24 March 1998, the Minister for Communications, the Information Economy and the Arts, Senator the Hon Richard Alston, announced that the Government had put in place planning processes which will allow the start up of digital radio services in Australia in 2001. He said that planning will proceed on the basis that the Eureka 147 system will be used to provide digital services, operating generally in the L band, but with consideration of VHF spectrum in regional areas.

(93) The Minister also announced that commercial, community and national (ABC & SBS) radio broadcasters will be able to convert to digital, but will be required to transmit their programs in analogue mode for a simulcasting period. He said that there will also be opportunities for new digital commercial radio services, with the number and timing of new entrants to be determined as part of the planning process.

(94) As stated in *The ABA's General Approach to Planning*,⁴⁹ the ABA assumes that, even if a DRB system was introduced in Australia later this decade, AM and FM services would still remain the most important media for radio services for a number of years, as it would take an extended period of time for DRB receivers to reach comparable penetration rates, and for DRB transmission facilities to provide a comprehensive coverage throughout the country.

The Demand for Radiofrequency Spectrum for Services other than Broadcasting Services

(95) The ABA's general consideration of demand for spectrum for other services is contained in the *ABA's General Approach to Planning*. There were no submissions received relevant to the Canberra licence area.

Such Other Matters as the ABA considers relevant.

(96) The ABA is unaware of other relevant matters at this stage.

CONSULTATION

(97) Pursuant to s27 of the Act, the ABA must make provision for wide public consultation, and keep a record of, and make available for public inspection, all advice received, and all assumptions made by the ABA, in performing its functions under sections 24, 25 and 26. The record of advice and assumptions are at Chapter 5 of the *ABA's General Approach to Planning*.

(98) Submissions on the planning of broadcasting services for the Illawarra, SE NSW and ACT region, which includes the Canberra area, were invited in June 1995. Informal discussions with existing and aspirant broadcasters were conducted during a visit to the region in July 1995.

(99) This discussion paper and draft LAP are issued for the purpose of wide public consultation on the ABA's proposals for the number, mix and shape of broadcasting services to be available in the Canberra area.

CONCLUSION

(100) Comments received on the draft LAP will be considered by the ABA. Any substantial variation to the ABA's options will be circulated for comment before the ABA determines the final LAP for radio services in the Canberra area.

⁴⁹ Chapter 5, Item 10, page 45.

APPENDIX 1

INDEX OF SPECIFIC ADVICE

Date	Document No	Detail
21/10/96	96/0477	Siars Pty Ltd: Demographic and Economic Analyses in relation to 2CC, 2XX and 2SSS.
22/7/97	File Note	Carolyn Smith with Mr Keith Ashton of Australia Announce Archive in which Mr Ashton confirmed his group's interest in ONC services.
1/12/97	File Note	Telephone conversation between Ms Val Avery of the ABA with Mr Norman Ashley of Capital Media NSW Pty Ltd re status of his submissions.
22/5/98	98/06355	Letter from Boyd House and Partners regarding newspaper advertisement submitted by Logan Partners Corporation advertising sale of SAT FM network.

APPENDIX 2

INDEX OF SUBMISSIONS

Trading name Organisation name	Surname	Given name	Date	Document number
	Aimes	Brian	14/12/95	96/0552
	Baldry	Keith	04/10/95	95/8448
	Bennett	Gail	20/05/98	98/7467
	Bowles	Caroline	03/07/94	94/5819
	Christian	Rochell	05/02/95	95/6462
	Codling	Joanne	18/04/95	95/6443
	Curnow	W J	28/07/95	95/7625-01
	Cusiter	V	02/10/96	96/3950
	Daley	Ian	06/07/94	94/5821
	Foest	J	14/02/95	95/5540
	Frawley	Matthew	30/12/94	95/5017
	Harris	Robyn	18/04/95	95/6442
	Heycox	Sherley	25/03/95	95/6234
	Kay	David	27/02/95	95/5760
	Marshall	S G	09/02/95	95/5447
	Miller	Bob	08/11/95	95/8968
	Nebauer	Les	04/07/95	95/7345
	Nelson	Jan		95/5554
	Raszewski	Bartek	16/10/95	95/8692
	Watson	Jackie	25/07/94	94/6032
	Williams	Selwyn J	25/10/95	95/8791
	Wright	Jane	25/10/95	95/8809
2CC	Leitch	David	27/10/95	95/8769
2KY Racing Radio	Unsworth	Barrie	14/09/95	95/8190
2XX	O'Brien	Elizabeth	14/03/95	95/6463
2XX	O'Brien	Elizabeth	26/10/95	95/8812
2XX	Vennonen	Kimmo	27/10/95	95/8816
AAA Australia Announce Archive	Lilburne	James	28/11/96	96/4422-01
ACT Trades and Labour Council	Bond	Samantha	27/07/95	95/7616-03
Austereo Limited	Rollo	Scott	19/10/95	95/8648
Austouradio	Ashley	Norman	10/08/94	94/6244
Australian Broadcasting Corporation	Jadeja	Dilip	10/11/95	95/9000
Better Music	Management		30/10/95	95/8773
Canberra FM 106.3	Pead	Stephen	26/10/95	95/8748
Canberra Stereo Public Radio	Wheeler	Annabel	25/10/95	95/8786
Canberra Women's Health Centre	Van Kooten Prasad	Marina	25/07/95	95/7616-01
CAPCOMM Pty Ltd, SMFM SATELLITE/MULTICASTING/ FM & Austouradio Ltd	Ashley	Norman	21/07/95	96/3354

Capital Media NSW Pty Ltd	Ashley	Norman	02/2/97	97/5278
Community Aid Abroad	Redden	Jim	22/08/95	95/7922
Community Ethnic Broadcasters Assoc	Marillanca	Victor	31/10/95	95/8813
Doris Collective	Arnold	Annie	28/07/95	95/7625-02
Ethnic Broadcasters of ACT (EBC)	Stefanik	Heinrich	26/10/95	95/8782
Gay & Lesbian Assoc of Australia	Parker Anderson	Dale	24/11/97	97/8008
Inforadio Australia Pty Ltd	Ashley	Norman	25/03/96	96/1581
International Womens Development Agency	Foskey	Deborah	07/07/95	95/7416
Minister For Gaming and Racing	Face	J Richard	27/10/95	95/8831
Music Broadcast Society of New South Wales - 2MBS	Hamilton	Ken - Manager	11/11/97	97/7884
National Transmission Agency	Bilnenko	Basil	01/05/95	95/6681
National Transmission Agency	Boyd	Tina	27/10/95	95/8818
Ngunnawal Local Aboriginal Land Council	House	Matilda	27/10/95	95/8749
Nolan Gallery	Haynes	Peter	17/10/95	95/8642
On Behalf of Roseannes Daughters	Gillespie	Amanda	30/08/95	95/8029
Phillips Fox obo Tatley Pty Ltd (Rete Italia)	Fox	Phillips	11/06/98	98/6588
Queanbeyan Community Radio	Lawrence	Larry	25/10/95	95/8718
Queanbeyan Community Radio Inc	Martin	William T	04/06/97	97/6533
Radio Antenna International FM Inc	Aktipi	Angelic	18/10/95	95/8619
Radio Canberra Pty Ltd	Blyton	Kevin - Managing Director	04/12/97	97/8139
Radio Canberra Pty Ltd / 2CC	Leitch	David	11/07/97	97/6705
Radio Rhema Canberra	Flynn	K B - Secretary	14/09/97	97/7359
Radio Rhema Canberra	Flynn	K B - Secretary	05/11/97	97/7798
Radio Rhema Canberra	Rout	Warren	27/10/95	95/8767
SMFM SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd)	Ashley	Norman	13/02/95	95/5490-11
SMFM SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd)	Ashley	Norman	13/02/95	95/5490-02
SMFM SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd)	Ashley	Norman	20/03/95	95/6104
SMFM SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd)	Ashley	Norman	14/10/95	95/8596-03
SMFM SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd)	Ashley	Norman	14/10/95	95/8596-02

ILLAWARRA, SE NSW AND ACT REGION
CANBERRA AREA DISCUSSION PAPER

SMFM SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd)	Ashley	Norman	14/10/95	95/8596-04
SMFM SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd)	Ashley	Norman	14/10/95	95/8596-08
SMFM SATELLITE/ MULTICASTING/FM (now Capital Media ACT Pty Ltd)	Ashley	Norman	14/10/95	95/8596-03
Special Broadcasting Service SBS	Soothill	David	01/11/95	95/8855
Splinters Theatre Company	Oldfield	Sandra	27/10/95	95/8750
The Australian National University	Sever	Nancy	10/11/95	95/9013
TJH Systems Pty Ltd	Harwood	Trevor	29/10/95	95/8794
TJH Systems Pty Ltd	Harwood	Trevor	10/04/97	97/5932
Toora Single Wimmins Shelter Inc	Moore	Michelle	03/08/95	95/7697
Tourist Radio Pty Ltd	Ashton	Keith	22/02/95	95/5749
Triple S	Paterson	Jim	11/05/95	95/6722
Triple S	Paterson	Jim	27/10/95	95/8770-02
Triple S	Paterson	Jim	27/10/95	95/8770-01
Triple S	Paterson	Jim	29/01/97	97/5228
University of Canberra Campus Radio	Brownlow	Bianca	15/09/98	98/7627
Woden Youth Centre	Smith	Jeremy	27/10/95	95/8817
Women's Electoral Lobby ACT	McKenzie	Ingrid	20/09/95	95/8257
Womensport Australia	Reid	Heather	23/08/95	95/7921
Youth Information Service	Romano	Fran	27/10/95	95/8761
YWCA	Holden	Donna Leigh	27/07/95	95/7616-02

APPENDIX 3

PROPOSED ASSIGNMENT OF CHANNELS REPORT

LAP : Canberra Medium : Radio

Service Category	Status	Frequency	Service Licence No	Technical Specification No	Attach No	Area Served
National	Licensed Reserved	666 kHz	N/A	TS4001001	1.2	Canberra
National	Licensed Reserved	846 kHz	N/A	TS4002001	1.3	Canberra
Community	Licensed	1008 kHz	SL4226	TS4226001	1.19	Canberra
To be determined (Option)	Available	1008 kHz	N/A	TS10008352	1.29	Canberra
Commercial	Licensed	1053 kHz	SL4096	TS4096001	1.11	Canberra
Community	Licensed	1125 kHz	SL5292	TS5292001	1.22	Canberra
Commercial	Licensed	1206 kHz	SL4097	TS4097001	1.12	Canberra
National	Licensed Reserved	1440 kHz	N/A	TS2213001	1.4	Canberra
Commercial (Option)	Available	98.3 MHz	SL1150190	TS10008276	1.17	Canberra
Open Narrowcasting (Option)	Available	98.3 MHz	N/A	TS10008401	1.30	Canberra
Community	Available	99.1 MHz	SL1150192	TS10008252	1.23	Canberra
Community	Available	99.9 MHz	SL1150191	TS10008253	1.25	Canberra
Community	Proposed	100.7 MHz	SL4226	TS10008251	1.20	Canberra
National	Licensed Reserved	101.5 MHz	N/A	TS3999601	1.5	Canberra
National	Licensed Reserved	102.3 MHz	N/A	TS3689601	1.6	Canberra
Community	Licensed	103.9 MHz	SL3518	TS3518001	1.27	Canberra
Commercial	Licensed	104.7 MHz	SL1066	TS1066901	1.13	Canberra
National	Licensed Reserved	105.5 MHz	N/A	TS6880001	1.7	Canberra
Commercial	Licensed	106.3 MHz	SL1060	TS1060901	1.15	Canberra
Open Narrowcasting	Available	92.1 MHz	N/A	TS10008318	1.32	Queanbeyan
Community	Available	96.7 MHz	SL1150158	TS10008285	2.2	Queanbeyan
Community	Available	88.5 MHz	SL1150192	TS10008237	1.24	Tuggeranong

Service Category	Status	Frequency	Service Licence No	Technical Specification No	Attach No	Area Served
Community	Available	89.3 MHz	SL1150191	TS10008236	1.26	Tuggeranong
Community	Proposed	90.1 MHz	SL4226	TS10008235	1.21	Tuggeranong
National	Reserved	90.9 MHz	N/A	TS10008238	1.8	Tuggeranong
National	Reserved	91.7 MHz	N/A	TS10008239	1.9	Tuggeranong
Commercial (Option)	Available	92.5 MHz	SL1150190	TS10008240	1.18	Tuggeranong
Open Narrowcasting (Option)	Available	92.5 MHz	N/A	TS10008402	1.31	Tuggeranong
Community	Proposed	93.3 MHz	SL3518	TS10008241	1.28	Tuggeranong
Commercial	Proposed	94.1 MHz	SL1066	TS10008242	1.14	Tuggeranong
National	Reserved	95.1 MHz	N/A	TS10008243	1.10	Tuggeranong
Commercial	Proposed	95.9 MHz	SL1060	TS10008244	1.16	Tuggeranong
Open Narrowcasting	Available	107.7 MHz	N/A	TS10008348	1.33	Williamsdale
Open Narrowcasting	Available	107.9 MHz	N/A	TS10008261	1.34	Yass

TECHNICAL RESTRAINTS RELATING TO THE DELIVERY OR RECEPTION OF BROADCASTING SERVICES

1. The frequencies 103.1 MHz, 107.1 MHz and 107.9 MHz designated in the tables accompanying the Frequency Allotment Plan (FAP) as being available for high power services in Canberra are not in fact available for use:
 - frequency 103.1 MHz is channelled adjacent to the existing Goulburn community radio 2GCR on 103.3 MHz
 - frequency 107.1 MHz is co-channelled with the frequency used by the existing Bowral community radio service 2WKT.
 - frequency 107.9 MHz is channelled adjacent to the aeronautical radiocommunications services operating out of Canberra airport, including Instrument Landing Systems.
2. Although the clearance of both the Bowral and Goulburn community radio services should increase the availability of frequencies in the region, particularly in Canberra, the ABA considers the public interest would not be served by such a step if it led to the closure of both services.
3. In the case of Bowral, an alternative frequency for 2WKT may not be available, while in Goulburn the ABA understands that 2GCR could be forced to close down if it was required to fund the costs associated with a change of frequency.
4. Channel capacity is available for:
 - additional transmitters associated with the existing national radio services 2ABCFM, 2JJJ and 2SBS at Tuggeranong (option 1);
 - additional transmitters associated with the existing commercial radio services 2ROC and 1CBR at Tuggeranong (option 2);
 - a new commercial radio service or open narrowcasting services with transmitters at Canberra Black Mountain and Tuggeranong (option 3);
 - conversion of community radio 2XX from AM to FM with transmitters at Canberra Black Mountain and Tuggeranong (options 4 and 5);
 - an AM radio service in Canberra (option 6);
 - additional transmitter associated with the existing community radio service 1SSS at Tuggeranong (option 7);
 - existing Canberra AM community radio service 1RPH (option 8);
 - two new community radio services with transmitters at Canberra Black Mountain and Tuggeranong (option 9);
 - a community radio service in Queanbeyan (option 10);

- open narrowcasting services in each of Queanbeyan, Williamsdale and Yass (options 11, 12 and 13);

5. To meet the demand for new radio services, frequencies 98.3, 99.1, 99.9, and 100.7 MHz were examined and found to be suitable for potential use in the Canberra area.
6. An engineering assessment of these frequencies follows:

Canberra

7. The city of Canberra has a population figure of approximately 337,626 persons (1996 Census)
8. The following table shows which frequencies are potentially available for assignment in the Canberra region.

Frequency	Area	Callsign	Category	Maximum ERP or CMF
1008 kHz	Canberra	(2XX)	Proposed open narrowcasting	171 V
1206 kHz	Canberra	2CC	Commercial	700/908 V
98.3 MHz	Canberra		Proposed commercial or open narrowcasting	20 kW
99.1 MHz	Canberra		Proposed community	20 kW
99.9 MHz	Canberra		Proposed community	20 kW
100.7 MHz	Canberra	2XX	Proposed community AM-FM conversion	20 kW

1008 kHz

9. The frequency 1008 kHz has always been limited in power to 171V CMF (about 300 W transmitter power) It is co-channelled with services in Brisbane (4TAB), Launceston (7EX), Geraldton (licensed open narrowcasting) and Paengaroa in New Zealand. The presence of these stations means that any increase in power for this frequency would have to be in conjunction with a directional pattern or day night switching. Both of these options would be prohibitive in cost for the community broadcaster (2XX).

1206 kHz

10. 2CC requested that it be allowed to change its radiation pattern to improve its coverage in Canberra. Its preferred option was to go omnidirectional, but this can not be achieved due to co-channel interference to 2GF Grafton, 6PB Perth, and Dunedin in New Zealand. However, it also proposed a day/night switching option, permitting it to

operate omnidirectional during the day, and return to directional at night. As this does not cause problems of interference or overspill, 2CC's specifications have been altered in line with this proposal.

98.3 MHz, 20 kW

11. This frequency is adjacent channelled with the 2UUL Wollongong commercial radio service (98.1 MHz, 40 kW directional). Interference studies indicate that interference is not likely to occur within the licence area of the Canberra commercial or community radio services.
12. Electromagnetic compatibility (EMC) checks show no problems of potential interference to radiocommunications services.

99.1 MHz, 20 kW

13. This frequency is adjacent channelled with the Bega/Cooma 2ABCFM national radio service (99.3 MHz, 200 kW directional) and the Illawarra 2JJJ National radio service (98.9 MHz, 150 kW). Interference studies indicate that interference is not likely to occur within the licence area of the Canberra commercial or community radio services.
14. EMC checks reveal the possibility of 5th harmonic interference to receivers belonging to the Australian Communications Authority (ACA), the Aerial Taxi Company and Telstra Corporation. The licensee must ensure that if interference occurs to these receivers, it will be eliminated or minimised to an acceptable degree.

99.9 MHz, 20 kW

15. This frequency is adjacent channelled with the Bega/Cooma 2JJJ national radio service (100.1 MHz, 200 kW directional) and a proposed Ulladulla community radio service (99.7 MHz, 1 kW). Interference studies indicate that interference is not likely to occur within the licence area of the Canberra commercial or community radio services.
16. EMC checks show no problems of potential interference to radiocommunication services.

100.7 MHz, 20 kW

17. This frequency is adjacent channelled with the Bega/Cooma 2ABCRN national radio service (100.9 MHz, 200 kW directional) and a proposed Batemans Bay national service (100.5 MHz, 20 kW directional). Interference studies indicate that, due to the terrain, interference is not likely to occur within the licence area of the Canberra commercial or community radio services, or to the Batemans Bay or the Bega/Cooma national services.
18. EMC checks show no problems of potential interference to radiocommunication services.

Tuggeranong

19. The following table shows which frequencies are potentially available for assignment in the Tuggeranong area.

Frequency	Area	Callsign	Category	Maximum ERP or CMF
88.5 MHz	Tuggeranong		Proposed community translator for 99.1 MHz	100 W
89.3 MHz	Tuggeranong		Proposed community translator for 99.9 MHz	100 W
90.1 MHz	Tuggeranong	2XX	Proposed community translator	100 W
90.9 MHz	Tuggeranong	2JJJ	Proposed national translator	100 W
91.7 MHz	Tuggeranong	2ABCFM	Proposed national translator	100 W
92.5 MHz	Tuggeranong		Proposed commercial translator or open narrowcasting service	100 W
93.3 MHz	Tuggeranong	1SSS	Proposed community translator	100 W
94.1 MHz	Tuggeranong	2ROC	Proposed commercial translator	100 W
95.1 MHz	Tuggeranong	2SBS	Proposed national translator	100 W
95.9 MHz	Tuggeranong	1CBR	Proposed commercial translator	100 W

Frequencies: 88.5, 89.3, 90.1, 90.9, 91.7, 92.5, 93.3, 94.1, 95.1, and 95.9 MHz:

20. These frequencies are intended to correct poor reception in the Tuggeranong area due to terrain shielding and reflections. Due to the area being heavily populated and spectrum being scarce, transmissions on these frequencies will only be protected to 66 dBuV/m.

21. In addition, many of these frequencies have the potential to cause intermediate frequency (IF) beat interference to radio services operating from Black Mountain. However this will only occur in higher field strength areas close to the Tuggeranong transmitters. For this reason Tuggeranong frequencies have been assigned so that the transmitter associated with a particular service will have the potential to interfere only with its

related Black Mountain transmitter. People experiencing interference need only to tune to the Tuggeranong frequency to avoid the interference.

88.5 MHz, 100 W

22. This frequency is adjacent channelled with the South West Slopes 2ABCFM national radio service (88.3 MHz, 80 kW). Interference studies indicate that interference will not occur within the 66dBuV/m contour of the proposed transmission in Tuggeranong.
23. EMC checks show no problems of potential interference to radiocommunication services.

89.3 MHz, 100 W

24. This frequency is adjacent channelled with a South West Slopes 2ABCRN national radio service (89.1 MHz, 80 kW). Interference studies indicate that interference will not occur within the 66dBuV/m contour of the proposed transmission in Tuggeranong.
25. EMC checks show no problems of potential interference to radiocommunication services.

90.1 MHz, 100 W

26. This frequency is adjacent channelled with a South West Slopes 2RVR national service (89.9 MHz, 80 kW). Interference studies indicate that interference will not occur within the 66dBuV/m contour of the proposed transmission in Tuggeranong.
27. EMC checks reveal the possibility of 5th harmonic interference to a receiver belonging to ACTEW. The licensee (2XX) must ensure that if interference occurs to this receiver, it will be eliminated or minimised to an acceptable degree.

90.9 MHz, 100 W

28. This frequency is adjacent channelled with the South West Slopes 2JJJ national service (90.7 MHz, 80 kW). Interference studies indicate that interference will not occur within the 66dBuV/m contour of the proposed transmission in Tuggeranong.
29. EMC checks show no problems of potential interference to radiocommunication services.

91.7 MHz, 100 W

30. This frequency is adjacent channelled with an allotment for Young (91.5 MHz, 40 kW). Interference studies indicate that interference will not occur within the 66dBuV/m contour of the proposed transmission in Tuggeranong.
31. EMC checks reveal the possibility of 5th harmonic interference to a receiver belonging to the Australian Federal Police (AFP). Interference to the police service could pose a public risk. **Therefore, a coordinated test transmission with the AFP service is recommended.** The licensee (NTA) must ensure that if interference occurs to the AFP receiver, it will be eliminated or minimised to an acceptable degree.

92.5 MHz, 100 W

32. This frequency is adjacent channelled with a Wagga Wagga allotment (92.3 MHz, 80 kW). Interference studies indicate that interference will not occur within the 66dBuV/m contour of the proposed transmission in Tuggeranong.
33. EMC checks show no problems of potential interference to radiocommunication services.

93.3 MHz, 100 W

34. This frequency is adjacent channelled with the Wagga Wagga 2WZD commercial radio service (93.1 MHz, 80 kW) and the Goulburn 2SNO commercial radio service (93.5 MHz, 40 kW). Interference studies indicate that interference will not occur within the 66dBuV/m contour of the proposed transmission in Tuggeranong.
35. EMC checks show no problems of potential interference to radiocommunication services.

94.1 MHz, 100 W

36. This frequency is adjacent channelled with a proposed Goulburn commercial/open narrowcasting radio service (94.3 MHz, 40 kW). It is also co-channelled with the Bombala 2BA national radio service (2 kW) and a proposed Wollongong community radio service (1 kW). Interference studies indicate that interference will not occur within the 66dBuV/m contour of the proposed transmission in Tuggeranong.
37. EMC checks show no problems of potential interference to radiocommunication services.

95.1 MHz, 100 W

38. This frequency is adjacent channelled with the Nowra 2WSK commercial radio service (94.9 MHz, 50 kW), and co-channelled with a Latrobe Valley allotment (100 kW). Interference studies indicate that interference will not occur within the 66dBuV/m contour of the proposed transmission in Tuggeranong.
39. EMC checks show no problems of potential interference to radiocommunication services.

95.9 MHz, 100 W

40. This frequency is adjacent channelled with the Illawarra 2ABCFM national radio service (95.7 MHz, 150 kW), and co-channelled with a Latrobe Valley allotment (100 kW). Interference studies indicate that interference will not occur within the 66dBuV/m contour of the proposed transmission in Tuggeranong.
41. EMC checks show no problems of potential interference to radiocommunication services.

Queanbeyan

42. The city of Queanbeyan has a population figure of approximately 28,067 persons (1996 Census).
43. The following table shows which frequencies are potentially available for assignment in the Queanbeyan area.

Frequency	Area	Callsign	Category	Maximum CMF or ERP
92.1 MHz	Queanbeyan		Proposed open narrowcasting	500 W
96.7 MHz	Queanbeyan		Proposed community	500 W

92.1 MHz, 500 W

44. This frequency is 200 kHz away from a Wagga Wagga allotment (92.3 MHz, 100 kW) and co-channelled with a proposed community radio translator for Cooma. Interference examinations reveal that areas within the coverage of the Queanbeyan and Cooma services will not receive interference.
45. EMC checks reveal the possibility of 5th harmonic interference to receivers belonging to the AFP, NSW Police, NSW Ambulance Service, Watts Communication, Woden Construction, Yarrowlunla Shire, Wormald Security, and Great Southern Energy. Interference to the police and ambulance services could pose a public risk. **Therefore, a coordinated test transmission with these services is recommended.** (Test transmissions are required for all new services as part of the startup provisions as detailed in the ABA's Technical Planning Guidelines) The licensee of the proposed open narrowcasting service must ensure that if interference occurs to any of these receivers, it will be eliminated or minimised to an acceptable degree.

96.7 MHz, 500 W

46. This frequency is 200 kHz from a proposed Cooma commercial/open narrowcasting radio service (96.9 MHz, 50 kW directional) and 200 kHz from the existing Wollongong 2UUL commercial radio service (96.5 MHz, 40 kW directional). Interference assessments from both these services indicate that interference will only occur in areas that do not receive an adequate level of signal strength from the Queanbeyan service.
47. EMC checks reveal the possibility of 5th harmonic interference to receivers belonging to Emolium Australia, Universal Electronics, Belconnen Concrete and Megacomms Wireless. While these services are located some 8 km away, the licensee does need to be aware of these potential problems. The licensee of the proposed community service

must ensure that if interference occurs to these receivers, it will be eliminated or minimised to an acceptable degree.

Williamsdale

48. The locality of Williamsdale has a population figure of approximately 180 persons.⁵⁰

Frequency	Area	Callsign	Category	Maximum CMF or ERP
107.7 MHz	Williamsdale		Proposed open narrowcasting	100 W

107.7 MHz, 100 W

50. No interference concerns to other broadcasting services were found with this frequency.

51. EMC checks show no problems of potential interference to radiocommunication services.

Yass

52. The city of Yass has a population figure of approximately 6,477 persons (1996 Census).

Frequency	Area	Callsign	Category	Maximum CMF or ERP
107.9 MHz	Yass		Proposed Open Narrowcasting	100W

107.9 MHz, 100 W

53. This frequency is co-channelled with the Central Western Slopes 2ABCRN national radio service (220 kW) and the 2WG commercial radio service in Tumut (10 W). It is also adjacent channelled with the Crookwell 2ABCRR national radio service (107.7 MHz, 100 W). Interference studies indicated that interference will not occur within the 66 dBuV/m contour of the proposed transmission in Yass.

54. EMC checks show no problems of potential interference to radiocommunication services.

⁵⁰ This figure was provided, in the absence of other reliable information, by a local resident, Mr R. Moore.



**Australian
Broadcasting
Authority**

**ILLAWARRA, SE NSW AND ACT
CANBERRA AREA**

(RADIO)

DRAFT LICENCE AREA PLAN

OCTOBER 1998

DRAFT LICENCE AREA PLAN - CANBERRA

DRAFT DETERMINATION

The Australian Broadcasting Authority hereby makes this plan for broadcasting services in the Canberra area, under subsection 26(1) of the *Broadcasting Services Act 1992*.

Nine national radio broadcasting services are to be available in the area described at Attachment 1.1 to this Determination with the use of the broadcasting services bands. The characteristics, including technical specifications, of the national radio services that are to be available in the area described at Attachment 1.1 are set out in Schedule One and Attachments 1.2 - 1.10 to this Determination.

Four (or five *)commercial radio broadcasting services are to be available in the area described at Attachment 1.1 to this Determination with the use of the broadcasting services bands. The characteristics, including technical specifications, of the commercial radio services that are to be available in the area described at Attachment 1.1 are set out in Schedule One and Attachments 1.11 - 1.18 to this Determination.

Five community radio broadcasting services are to be available in the area described at Attachment 1.1 to this Determination with the use of the broadcasting services bands. The characteristics, including technical specifications, of the community radio services that are to be available in the area described at Attachment 1.1 are set out in Schedule One and Attachment 1.19 to 1.28 in this Determination.

Three (or up to five **) open narrowcasting radio services are to be available in the area described at Attachment 1.1 to this Determination with the use of the broadcasting services bands. The characteristics, including technical specifications, of the open narrowcasting services that are to be available in the area described at Attachment 1.1 are set out in Schedule One and Attachments 1.30 - 1.34 to this Determination.

One community radio broadcasting service is to be available in the area described at Attachment 2.1 to this Determination with the use of the broadcasting services bands. The characteristics, including technical specifications, of the community radio service that is to be available in the area described at Attachment 2.1 are set out in Schedule Two and Attachment 2.2 to this Determination.

* See Option 3

** See Options 11, 12 and 13

In addition, one additional AM radio broadcasting service may be made available in the area described at Attachment 1.1 to this Determination. The category of this service, is to be determined (see Option 10). The characteristics, including technical specifications, of this service are set out in Schedule One and Attachment 1.29 to this Determination.

Dated:

SCHEDULES

Each of the Schedules sets out:

- the category of each of the services that are to be available in that area (column one).
- The status of the service (column two) does not form part of the licence area plan decision and is included for reference only.
- The frequency for each transmitter (column three) does not form part of the licence area plan decision and is included for reference only.
- the service licence number which has been allocated to the service, if appropriate (column four); N/A = Not Applicable, as the *Broadcasting Services Act 1992* only requires service licences for Commercial and Community services.
- the number of transmitters required to transmit the service,
- the transmitter specification number which has been allocated to each transmitter (column five),
- the identifying number of the attachment where the technical specifications for each transmitter are described (column six). (Each set of technical specifications referred to in the Schedules is an attachment to this determination).
- the general area served by each transmitter (column seven).

Status Column

Licensed	:	service is already licensed
Available	:	new licence available for allocation
Proposed	:	transmitter for existing broadcasting service licence
Alternative	:	alternative channel proposed for licensed service
Reserved	:	capacity reserved for a national or community service in accordance with Ministerial notification

Frequency Column

- The frequency shown is the centre frequency of the channel.

SCHEDULE ONE

Licence Area Plan : Canberra Radio - Draft - October 1998

Licence Area : CANBERRA RA1

Service Category	Status	Frequency	Service Licence No	Technical Specification No	Attach No	Area Served
National	Licensed Reserved	666 kHz	N/A	TS4001001	1.2	Canberra
National	Licensed Reserved	846 kHz	N/A	TS4002001	1.3	Canberra
National	Licensed Reserved	1440 kHz	N/A	TS2213001	1.4	Canberra
National	Licensed Reserved	101.5 MHz	N/A	TS3999601	1.5	Canberra
National	Licensed Reserved	102.3 MHz	N/A	TS3689601	1.6	Canberra
National	Licensed Reserved	105.5 MHz	N/A	TS6880001	1.7	Canberra
National	Reserved	90.9 MHz	N/A	TS10008238	1.8	Tuggeranong
National	Reserved	91.7 MHz	N/A	TS10008239	1.9	Tuggeranong
National	Reserved	95.1 MHz	N/A	TS10008243	1.10	Tuggeranong
Commercial	Licensed	1053 kHz	SL4096	TS4096001	1.11	Canberra
Commercial	Licensed	1206 kHz	SL4097	TS4097001	1.12	Canberra
Commercial	Licensed Proposed	104.7 MHz 94.1 MHz	SL1066 SL1066	TS1066901 TS10008242	1.13 1.14	Canberra Tuggeranong
Commercial	Licensed Proposed	106.3 MHz 95.9 MHz	SL1060 SL1060	TS1060901 TS10008244	1.15 1.16	Canberra Tuggeranong
Commercial (Option)	Available Available	98.3 MHz 92.5 MHz	SL1150190 SL1150190	TS10008276 TS10008240	1.17 1.18	Canberra Tuggeranong
Community	Licensed Alternative Proposed	1008 kHz 100.7 MHz 90.1 MHz	SL4226 SL4226 SL4226	TS4226001 TS10008251 TS10008235	1.19 1.20 1.21	Canberra Canberra Tuggeranong
Community	Licensed	1125 kHz	SL5292	TS5292001	1.22	Canberra
Community	Available Available	99.1 MHz 88.5 MHz	SL1150192 SL1150192	TS10008252 TS10008237	1.23 1.24	Canberra Tuggeranong
Community	Available Available	99.9 MHz 89.3 MHz	SL1150191 SL1150191	TS10008253 TS10008236	1.25 1.26	Canberra Tuggeranong
Community	Licensed Proposed	103.9 MHz 93.3 MHz	SL3518 SL3518	TS3518001 TS10008241	1.27 1.28	Canberra Tuggeranong

SCHEDULE ONE

Continued

Licence Area Plan : Canberra Radio - Draft - October 1998**Licence Area : CANBERRA RA1**

Service Category	Status	Frequency	Service Licence No	Technical Specification No	Attach No	Area Served
To be determined (Option)	Available	1008 kHz	N/A	TS10008352	1.29	Canberra
Open Narrowcasting (Option)	Available	98.3 MHz	N/A	TS10008401	1.30	Canberra
Open Narrowcasting (Option)	Available	92.5 MHz	N/A	TS10008402	1.31	Tuggeranong
Open Narrowcasting	Available	92.1 MHz	N/A	TS10008318	1.32	Queanbeyan
Open Narrowcasting	Available	107.7 MHz	N/A	TS10008348	1.33	Williamsdale
Open Narrowcasting	Available	107.9 MHz	N/A	TS10008261	1.34	Yass

SCHEDULE TWO**Licence Area Plan : Canberra Radio - Draft - October 1998****Licence Area : QUEANBEYAN RA1**

Service Category	Status	Frequency	Service Licence No	Technical Specification No	Attach No	Area Served
Community	Available	96.7 MHz	SL1150158	TS10008285	2.2	Queanbeyan

Licence Area Plan : Canberra Radio

LICENCE AREA FOR SERVICE LICENCE NOS : SL4226, SL1060, SL1066, SL3518,
SL4096, SL4097, SL5292, SL1150190, SL1150191, SL1150192
COMMERCIAL AND COMMUNITY RADIO, CANBERRA RA1

The licence area, in terms of areas defined by the Australian Bureau of Statistics at the Census of 6 August 1996, is:

Area Description	NSW CD 1170206	NSW CD 1170111
	NSW CD 1170308	NSW CD 1170502
Canberra	NSW CD 1152305	NSW CD 1152310
Yarrowlumla (A) - Pt B	NSW CD 1170303	NSW CD 1170305
NSW CD 1152307	NSW CD 1170412	NSW CD 1170509
NSW CD 1170309	NSW CD 1152302	NSW CD 1170204
NSW CD 1172006	NSW CD 1152304	NSW CD 1170110
NSW CD 1170106	NSW CD 1172004	NSW CD 1170403
NSW CD 1170411	NSW CD 1170301	NSW CD 1170514
NSW CD 1170406	NSW CD 1152303	NSW CD 1170505
NSW CD 1170405	NSW CD 1170109	NSW CD 1170510
NSW CD 1170102	NSW CD 1172001	NSW CD 1152309
NSW CD 1152306	NSW CD 1172003	NSW CD 1170105
NSW CD 1152311	NSW CD 1172002	NSW CD 1170402
NSW CD 1170209	NSW CD 1170205	NSW CD 1170107
NSW CD 1170407	NSW CD 1152308	NSW CD 1170507
NSW CD 1170202	NSW CD 1170210	NSW CD 1170513
NSW CD 1170508	NSW CD 1170307	NSW CD 1170207
NSW CD 1170310	NSW CD 1170108	NSW CD 1170211
NSW CD 1172007	NSW CD 1170201	NSW CD 1170504
NSW CD 1170208	NSW CD 1152313	NSW CD 1170112
NSW CD 1170408	NSW CD 1170306	NSW CD 1170103
NSW CD 1152312	NSW CD 1152301	ACT CD 8023401
NSW CD 1170506	NSW CD 1170203	NSW CD 1170516
NSW CD 1170302	NSW CD 1170101	NSW CD 1170104
NSW CD 1170409	NSW CD 1170304	ACT CD 8024103
NSW CD 1170515	NSW CD 1170212	ACT CD 8024101
NSW CD 1170404	NSW CD 1170410	NSW CD 1170503
NSW CD 1170401	NSW CD 1170512	

Note:

Standard terminology used by the Australian Bureau of Statistics:

(CD) = Collection District

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : National
General Area Served : Canberra (ACT)
Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - AM Radio

Specification Number : TS4001001

Transmitter Site :-

Nominal location : Gungahlin BARTON HIGHWAY
Australian Map Grid : Zone Easting Northing
Reference 55 693179 6100570
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode MF-AM
Carrier Frequency : 666 kHz

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Elevation	Maximum CMF
At all angles of azimuth	0	880 V

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : National
General Area Served : Canberra (ACT)
Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - AM Radio

Specification Number : TS4002001

Transmitter Site :-

Nominal location : Gungahlin BARTON HIGHWAY

Australian Map Grid : Zone Easting Northing
Reference 55 693179 6100570

Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode MF-AM

Carrier Frequency : 846 kHz

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Elevation	Maximum CMF
At all angles of azimuth	0	1.25 kV

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : National
General Area Served : Canberra (ACT)
Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - AM Radio

Specification Number : TS2213001

Transmitter Site :-

Nominal location : Gungahlin BARTON HIGHWAY
Australian Map Grid : Zone Easting Northing
Reference 55 693179 6100570
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode MF-AM
Carrier Frequency : 1440 kHz

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Elevation	Maximum CMF
At all angles of azimuth	0	440 V

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : National
General Area Served : Canberra (ACT)
Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS3999601

Transmitter Site :-

Nominal location : Telecom Tower BLACK MOUNTAIN

Australian Map Grid : Zone Easting Northing
Reference 55 690683 6094201

Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 101.5 MHz
Polarisation Mixed
Maximum antenna height 147 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	80 kW

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : National
General Area Served : Canberra (ACT)
Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS3689601

Transmitter Site :-

Nominal location : Telecom Tower BLACK MOUNTAIN

Australian Map Grid : Zone Easting Northing
Reference 55 690683 6094201

Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 102.3 MHz
Polarisation Mixed
Maximum antenna height 147 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	80 kW

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : National
General Area Served : Canberra (ACT)
Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS6880001

Transmitter Site :-

Nominal location : Telecom Tower BLACK MOUNTAIN

Australian Map Grid : Zone Easting Northing
Reference 55 690683 6094201

Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 105.5 MHz
Polarisation Mixed
Maximum antenna height 147 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	80 kW

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : National
General Area Served : Tuggeranong (ACT)
Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008238

Transmitter Site :-

Nominal location : TUGGERANONG HILL
Australian Map Grid : Zone Easting Northing
Reference 55 690631 6074489
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 90.9 MHz
Polarisation Mixed
Maximum antenna height 20 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	100 W

Special Condition :-

Any transmission in accordance with this technical specification is planned on the basis that it will be protected to a minimum median field strength level of 66 dBuV/m against interference from other broadcasting services.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : National
General Area Served : Tuggeranong (ACT)
Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008239

Transmitter Site :-

Nominal location : TUGGERANONG HILL
Australian Map Grid : Zone Easting Northing
Reference 55 690631 6074489
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 91.7 MHz
Polarisation Mixed
Maximum antenna height 20 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	100 W

Special Condition :-

Any transmission in accordance with this technical specification is planned on the basis that it will be protected to a minimum median field strength level of 66 dBuV/m against interference from other broadcasting services.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : National
General Area Served : Tuggeranong (ACT)
Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008243

Transmitter Site :-

Nominal location : TUGGERANONG HILL
Australian Map Grid : Zone Easting Northing
Reference 55 690631 6074489
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 95.1 MHz
Polarisation Mixed
Maximum antenna height 20 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	100 W

Special Condition :-

Any transmission in accordance with this technical specification is planned on the basis that it will be protected to a minimum median field strength level of 66 dBuV/m against interference from other broadcasting services.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Commercial
 General Area Served : Canberra (ACT)
 Service Licence Number : SL4096

TECHNICAL SPECIFICATION - AM Radio

Specification Number : TS4096001

Transmitter Site :-

Nominal location : MITCHELL
 Australian Map Grid : Zone Easting Northing
 Reference 55 695502 6100199
 Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode MF-AM
 Carrier Frequency : 1053 kHz

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Elevation	Maximum CMF
0°T - 2°T	0	965 V
2°T - 36°T	0	480 V
24°T - 24°T	0	150 V
27°T - 27°T	0	150 V
36°T - 110°T	0	500 V
64°T - 64°T	0	150 V
108°T - 108°T	0	300 V
110°T - 144°T	0	480 V
144°T - 360°T	0	965 V
263°T - 263°T	0	650 V
279°T - 279°T	0	750 V
299°T - 299°T	0	950 V
342°T - 342°T	0	900 V
344°T - 344°T	0	900 V
345°T - 345°T	0	850 V

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Commercial
 General Area Served : Canberra (ACT)
 Service Licence Number : SL4097

TECHNICAL SPECIFICATION - AM Radio

Specification Number : TS4097001

Transmitter Site :-

Nominal location : Gungahlin BARTON HIGHWAY
 Australian Map Grid : Zone Easting Northing
 Reference 55 693179 6100570
 Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode MF-AM
 Carrier Frequency : 1206 kHz

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Elevation	Maximum CMF
0°T - 10°T	0	908 V
10°T - 43°T	0	454 V
30°T - 30°T	0	90 V
43°T - 113°T	0	498 V
130°T - 130°T	0	400 V
224°T - 292°T	0	454 V
292°T - 360°T	0	908 V

Special Conditions :-

1. The facility will operate as a single mast service with a CMF not to exceed 700 V for all angles of azimuth from one hour after local sunrise, to one hour before local sunset as defined at the transmitter site on the 15th day of each month (day-night switching).
2. The licensee should operate the transmission facility according to the ABA's policy on implementation of Day/Night Switching Operation.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Commercial
General Area Served : Canberra (ACT)
Service Licence Number : SL1066

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS1066901

Transmitter Site :-

Nominal location : Telecom Tower BLACK MOUNTAIN
Australian Map Grid : Zone Easting Northing
Reference 55 690683 6094201
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 104.7 MHz
Polarisation Mixed
Maximum antenna height 147 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	20 kW

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Commercial
General Area Served : Tuggeranong (ACT)
Service Licence Number : SL1066

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008242

Transmitter Site :-

Nominal location : TUGGERANONG HILL
Australian Map Grid : Zone Easting Northing
Reference 55 690631 6074489
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 94.1 MHz
Polarisation Mixed
Maximum antenna height 20 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	100 W

Special Condition :-

Any transmission in accordance with this technical specification is planned on the basis that it will be protected to a minimum median field strength level of 66 dBuV/m against interference from other broadcasting services.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Commercial
General Area Served : Canberra (ACT)
Service Licence Number : SL1060

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS1060901

Transmitter Site :-

Nominal location : Telecom Tower BLACK MOUNTAIN
Australian Map Grid : Zone Easting Northing
Reference 55 690683 6094201
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 106.3 MHz
Polarisation Mixed
Maximum antenna height 147 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	20 kW

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Commercial
 General Area Served : Tuggeranong (ACT)
 Service Licence Number : SL1060

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008244

Transmitter Site :-

Nominal location : TUGGERANONG HILL
 Australian Map Grid : Zone Easting Northing
 Reference 55 690631 6074489
 Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
 Carrier Frequency : 95.9 MHz
 Polarisation Mixed
 Maximum antenna height 20 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	100 W

Special Condition :-

Any transmission in accordance with this technical specification is planned on the basis that it will be protected to a minimum median field strength level of 66 dBuV/m against interference from other broadcasting services.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Commercial (Option)
General Area Served : Canberra (ACT)
Service Licence Number : SL1150190

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008276

Transmitter Site :-

Nominal location : Telecom Tower BLACK MOUNTAIN
Australian Map Grid : Zone Easting Northing
Reference 55 690683 6094201
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 98.3 MHz
Polarisation Mixed
Maximum antenna height 147 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	20 kW

Note :-

This technical specification is proposed for either a Commercial or Open Narrowcasting service - see TS10008401 - Attachment 1.30

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Commercial (Option)
 General Area Served : Tuggeranong (ACT)
 Service Licence Number : SL1150190

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008240

Transmitter Site :-

Nominal location : TUGGERANONG HILL

Australian Map Grid : Reference	Zone	Easting	Northing
	55	690631	6074489

Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode : VHF-FM

Carrier Frequency : 92.5 MHz
 Polarisation : Mixed

Maximum antenna height : 20 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	100 W

Note :-

This technical specification is proposed for either a Commercial or Open Narrowcasting service - see TS10008402 - Attachment 1.31

Special Condition :-

Any transmission in accordance with this technical specification is planned on the basis that it will be protected to a minimum median field strength level of 66 dBuV/m against interference from other broadcasting services.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Community
General Area Served : Canberra (ACT)
Service Licence Number : SL4226

TECHNICAL SPECIFICATION - AM Radio

Specification Number : TS4226001

Transmitter Site :-

Nominal location : KALEEN
Australian Map Grid : Zone Easting Northing
Reference 55 692601 6100394
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode MF-AM
Carrier Frequency : 1008 kHz

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Elevation	Maximum CMF
At all angles of azimuth	0	171 V

Note :-

Transmission in accordance with this technical specification may only continue for 28 days after the commencement of full-time transmission on 100.7 MHz, in accordance with TS10008251 at Attachment 1.20 in this LAP.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Community
General Area Served : Canberra (ACT)
Service Licence Number : SL4226

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008251

Transmitter Site :-

Nominal location : Telecom Tower BLACK MOUNTAIN
Australian Map Grid : Zone Easting Northing
Reference 55 690683 6094201
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 100.7 MHz
Polarisation Mixed
Maximum antenna height 147 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	20 kW

Note :-

Full-time transmission in accordance with this technical specification must commence within 12 months of the date of publication of the gazette notice (as required by section 35 of the *Broadcasting Services Act 1992*) of the final Canberra radio LAP. For the purposes of this note 'transmission' does not include test transmissions

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Community
General Area Served : Tuggeranong (ACT)
Service Licence Number : SL4226

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008235

Transmitter Site :-

Nominal location : TUGGERANONG HILL
Australian Map Grid : Zone Easting Northing
Reference 55 690631 6074489
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 90.1 MHz
Polarisation Mixed
Maximum antenna height 20 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	100 W

Special Condition :-

Any transmission in accordance with this technical specification is planned on the basis that it will be protected to a minimum median field strength level of 66 dBuV/m against interference from other broadcasting services.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Community
 General Area Served : Canberra (ACT)
 Service Licence Number : SL5292

TECHNICAL SPECIFICATION - AM Radio

Specification Number : TS5292001

Transmitter Site :-

Nominal location : GUNGAHLIN
 Australian Map Grid : Zone Easting Northing
 Reference 55 692657 6100859
 Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode MF-AM
 Carrier Frequency : 1125 kHz

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Elevation	Maximum CMF
0°T - 88°T	0	591 V
25°T - 25°T	0	530 V
88°T - 214°T	0	590 V
214°T - 322°T	0	300 V
234°T - 234°T	0	440 V
268°T - 268°T	0	95 V
322°T - 360°T	0	591 V

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Community
General Area Served : Canberra (ACT)
Service Licence Number : SL1150192

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008252

Transmitter Site :-

Nominal location : Telecom Tower BLACK MOUNTAIN
Australian Map Grid : Zone Easting Northing
Reference 55 690683 6094201
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 99.1 MHz
Polarisation Mixed
Maximum antenna height 147 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	20 kW

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Community
General Area Served : Tuggeranong (ACT)
Service Licence Number : SL1150192

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008237

Transmitter Site :-

Nominal location : TUGGERANONG HILL
Australian Map Grid : Zone Easting Northing
Reference 55 690631 6074489
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 88.5 MHz
Polarisation Mixed
Maximum antenna height 20 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	100 W

Special Condition :-

Any transmission in accordance with this technical specification is planned on the basis that it will be protected to a minimum median field strength level of 66 dBuV/m against interference from other broadcasting services.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Community
General Area Served : Canberra (ACT)
Service Licence Number : SL1150191

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008253

Transmitter Site :-

Nominal location : Telecom Tower BLACK MOUNTAIN
Australian Map Grid : Zone Easting Northing
Reference 55 690683 6094201
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 99.9 MHz
Polarisation Mixed
Maximum antenna height 147 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	20 kW

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Community
General Area Served : Tuggeranong (ACT)
Service Licence Number : SL1150191

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008236

Transmitter Site :-

Nominal location : TUGGERANONG HILL
Australian Map Grid : Zone Easting Northing
Reference 55 690631 6074489
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 89.3 MHz
Polarisation Mixed
Maximum antenna height 20 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	100 W

Special Condition :-

Any transmission in accordance with this technical specification is planned on the basis that it will be protected to a minimum median field strength level of 66 dBuV/m against interference from other broadcasting services.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Community
General Area Served : Canberra (ACT)
Service Licence Number : SL3518

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS3518001

Transmitter Site :-

Nominal location : Telecom Tower BLACK MOUNTAIN
Australian Map Grid : Zone Easting Northing
Reference 55 690683 6094201
Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 103.9 MHz
Polarisation Mixed
Maximum antenna height 147 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	20 kW

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Community
 General Area Served : Tuggeranong (ACT)
 Service Licence Number : SL3518

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008241

Transmitter Site :-

Nominal location : TUGGERANONG HILL
 Australian Map Grid : Zone Easting Northing
 Reference 55 690631 6074489
 Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
 Carrier Frequency : 93.3 MHz
 Polarisation Mixed
 Maximum antenna height 20 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	100 W

Special Condition :-

Any transmission in accordance with this technical specification is planned on the basis that it will be protected to a minimum median field strength level of 66 dBuV/m against interference from other broadcasting services.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : To be determined (Option)
 General Area Served : Canberra (ACT)
 Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - AM Radio

Specification Number : TS10008352

Transmitter Site :-

Nominal location : KALEEN
 Australian Map Grid : Zone Easting Northing
 Reference 55 692601 6100394
 Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode MF-AM
 Carrier Frequency : 1008 kHz

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Elevation	Maximum CMF
At all angles of azimuth	0	171 V

Note :-

Transmission of a service in accordance with this technical specification may only commence after the cessation of transmission of the community radio service 2XX Canberra on 1008 kHz, in accordance with TS4226001 at Attachment 1.19 in this LAP ceases.

Special Condition :-

The 'coverage radius' of this transmission is 40 kilometres measured from a point with the following AMG co-ordinates: Zone: 55; Easting: 592601; Northing: 6100394. This point is the same as the nominal transmitter site.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Open Narrowcasting (Option)
 General Area Served : Canberra (ACT)
 Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008401

Transmitter Site :-

Nominal location : Telecom Tower BLACK MOUNTAIN
 Australian Map Grid : Zone Easting Northing
 Reference 55 690683 6094201
 Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
 Carrier Frequency : 98.3 MHz
 Polarisation Mixed
 Maximum antenna height 147 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	20 kW

Note :-

This technical specification is proposed for either a Commercial or Open Narrowcasting service - see TS10008276 - Attachment 1.17

Special Condition :-

The 'coverage radius' of this transmission is 50 kilometres measured from a point with the following AMG co-ordinates: Zone: 55; Easting: 690740; Northing: 6094197. This point is the same as the nominal transmitter site.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Open Narrowcasting (Option)
 General Area Served : Tuggeranong (ACT)
 Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008402

Transmitter Site :-

Nominal location : TUGGERANONG HILL

Australian Map Grid : Zone Easting Northing
 Reference 55 690631 6074489

Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM

Carrier Frequency : 92.5 MHz
 Polarisation Mixed

Maximum antenna height 20 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	100 W

Note :-

This technical specification is proposed for either a Commercial or Open Narrowcasting service - see TS10008240 - Attachment 1.18

Special Conditions :-

- Any transmission in accordance with this technical specification is planned on the basis that it will be protected to a minimum median field strength level of 66 dBuV/m against interference from other broadcasting services.
- The 'coverage radius' of this transmission is 8 kilometres measured from a point with the following AMG co-ordinates: Zone: 55; Easting: 690631; Northing: 6074489. This point is the same as the nominal transmitter site.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Open Narrowcasting
 General Area Served : Queanbeyan (NSW)
 Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008318

Transmitter Site :-

Nominal location : Community Broadcast Site Mt Jerrabomberra
 QUEANBEYAN

Australian Map Grid :	Zone	Easting	Northing
Reference	55	700900	6082900

Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode : VHF-FM
 Carrier Frequency : 92.1 MHz
 Polarisation : Mixed
 Maximum antenna height : 10 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	500 W

Special Condition :-

The 'coverage radius' of this transmission is 10 kilometres measured from a point with the following AMG co-ordinates: Zone: 55; Easting: 700900; Northing: 6082900. This point is the same as the nominal transmitter site.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Open Narrowcasting
 General Area Served : Williamsdale (ACT)
 Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008348

Transmitter Site :-

Nominal location : Williamsdale
 Australian Map Grid : Zone Easting Northing
 Reference 55 692960 6061930

Site Tolerance :

Emission :-

Frequency Band & Mode VHF-FM
 Carrier Frequency : 107.7 MHz
 Polarisation Horizontal
 Maximum antenna height 30 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	100 W

Special Condition :-

The 'coverage radius' of this transmission is 8 kilometres measured from a point with the following AMG co-ordinates: Zone: 55; Easting: 692960; Northing: 6061930. This point is the same as the nominal transmitter site.

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Open Narrowcasting
 General Area Served : Yass (NSW)
 Service Licence Number : Not applicable

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008261

Transmitter Site :-

Nominal location : MOUNT MANTON
 Australian Map Grid : Zone Easting Northing
 Reference 55 680100 6141497
 Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
 Carrier Frequency : 107.9 MHz
 Polarisation Mixed
 Maximum antenna height 11 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	100 W

Special Conditions :-

1. Any transmission in accordance with this technical specification is planned on the basis that it will be protected to a minimum median field strength level of 66 dBuV/m against interference from other broadcasting services.
2. The 'coverage radius' of this transmission is 8 kilometres measured from a point with the following AMG co-ordinates: Zone: 55; Easting: 680100; Northing: 6141497. This point is the same as the nominal transmitter site.

Licence Area Plan : Canberra Radio

LICENCE AREA FOR SERVICE LICENCE NOS : SL1150158
COMMUNITY RADIO, QUEANBEYAN RA1

The licence area, in terms of areas defined by the Australian Bureau of Statistics at the Census of 6 August 1996, is:

Area Description

Queanbeyan (C)
NSW CD 1170612

Note:

Standard terminology used by the Australian Bureau of Statistics:

(C) = City
(CD) = Collection District

LICENCE AREA PLAN : Canberra - Radio - Draft

Category : Community
General Area Served : Queanbeyan (NSW)
Service Licence Number : SL1150158

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS10008285

Transmitter Site :-

Nominal location : Community Broadcast Site Mt Jerrabomberra
QUEANBEYAN

Australian Map Grid : Zone Easting Northing
Reference 55 700900 6082900

Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Frequency Band & Mode VHF-FM
Carrier Frequency : 96.7 MHz
Polarisation Mixed
Maximum antenna height 10 m

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	500 W



**Australian
Broadcasting
Authority**

ILLAWARRA, SE NSW AND ACT

CANBERRA AREA

(RADIO)

DRAFT LICENCE AREA DESIGNATION

OCTOBER 1998

LICENCE AREA

CANBERRA

DRAFT DESIGNATION OF LICENCE AREAS

Under section 29(1) of the *Broadcasting Services Act 1992* the Australian Broadcasting Authority designates the areas defined in column 2 of the attached Schedule to be the licence areas of the licences for the broadcasting services whose identifying service licence numbers are listed in the corresponding row of column 1 in the attached Schedule.

Dated

SCHEDULE

Column 1: Licence *	Column 2 : Area	Licence Area Name #
SL 4226	The area described in Attachment 1.1 to the determination of the licence area plan for Canberra of	Canberra RA1
SL1060	The area described in Attachment 1.1 to the determination of the licence area plan for Canberra of	Canberra RA1
SL1066	The area described in Attachment 1.1 to the determination of the licence area plan for Canberra of	Canberra RA1
SL3518	The area described in Attachment 1.1 to the determination of the licence area plan for Canberra of	Canberra RA1
SL4096	The area described in Attachment 1.1 to the determination of the licence area plan for Canberra of	Canberra RA1
SL4097	The area described in Attachment 1.1 to the determination of the licence area plan for Canberra of	Canberra RA1
SL5292	The area described in Attachment 1.1 to the determination of the licence area plan for Canberra of	Canberra RA1
SL1150190	The area described in Attachment 1.1 to the determination of the licence area plan for Canberra of	Canberra RA1
SL1150191	The area described in Attachment 1.1 to the determination of the licence area plan for Canberra of	Canberra RA1
SL1150192	The area described in Attachment 1.1 to the determination of the licence area plan for Canberra of	Canberra RA1
SL1150158	The area described in Attachment 2.1 to the determination of the licence area plan for Canberra of	Queanbeyan RA1

* Licence identified by service licence number

For information only



**Australian
Broadcasting
Authority**

DRAFT VARIATION TO FREQUENCY ALLOTMENT PLAN

CANBERRA AREA

(RADIO)

OCTOBER 1998

DRAFT VARIATION TO FREQUENCY ALLOTMENT PLAN

CANBERRA

The Australian Broadcasting Authority hereby varies the frequency allotment plan of the MF-AM and VHF-FM Radio Bands determined on 10 August 1994 and subsequently varied under subsection 25(2) of the *Broadcasting Services Act 1992*, as follows:

Frequency allotment plan for MF-AM Radio Bands - R9 - Illawarra, south east NSW and the ACT

The frequency allotment plan for the MF-AM Radio Band is varied by deleting the entries shown in Schedule One to this variation, in entirety, and inserting the entries in Schedule Three to this variation.

Frequency allotment plan for VHF-FM Radio Bands - R9 - Illawarra, south east NSW and the ACT

The frequency allotment plan for the VHF-FM Radio Band is varied by deleting the entries shown in Schedule Two to this variation, in entirety, and inserting the entries in Schedule Four to this variation.

Dated

SCHEDULE ONE

FREQUENCY ALLOTMENT PLAN FOR MF-AM RADIO BAND - EXISTING ENTRY UNDER R9 - ILLAWARRA, SOUTH EAST NSW AND THE ACT TO BE DELETED

R9 - MF-AM Radio

Area	Transmission Site	Total Capacity	Channels Available	Licensed Services				Ministerial Reservations for Future Services			Comments
				National	Commercial	Community	Other	National	Community	Nat/Com	
Canberra		7	0	3	2	2	0	0	0	0	N/A

SCHEDULE TWO

FREQUENCY ALLOTMENT PLAN FOR VHF-FM RADIO BAND - EXISTING ENTRY UNDER R9 - ILLAWARRA, SOUTH EAST NSW AND THE ACT TO BE DELETED

R9 - VHF-FM Radio

Area	Transmission Site	Total Capacity	Channels Available	Licensed Services				Ministerial Reservations for Future Services			Comments
				National	Commercial	Community	Other	National	Community	Nat/Com	
Canberra	Black Mountain	7	3	3	2	1	0	0	0	0	N/A
Yass		0	0	0	0	0	0	1	0	0	N/A

SCHEDULE THREE

FREQUENCY ALLOTMENT PLAN FOR MF-AM RADIO BAND - ENTRIES UNDER R9 - ILLAWARRA, SOUTH EAST NSW AND THE ACT TO BE INSERTED

R9 - MF-AM Radio

Area	Transmission Site	Channels Available	Unassigned Channels	Assigned Channels				Ministerial Notification for Reservations			Comments
				National	Commercial	Community	Other	National	Community	Nat/Com	
Canberra		7	0	3	2	1	1	3	1	0	N/A

SCHEDULE FOUR

FREQUENCY ALLOTMENT PLAN FOR VHF-FM RADIO BAND - ENTRIES UNDER R9 - ILLAWARRA, SOUTH EAST NSW AND THE ACT TO BE INSERTED

R9 - VHF-FM Radio

Area	Transmission Site	Channels Available	Unassigned Channels	Assigned Channels				Ministerial Notification for Reservations			Comments
				National	Commercial	Community	Other	National	Community	Nat/Com	
Canberra	Black Mountain	10	0	3	3 *	4 **	0	3	3	N/A	
Queanbeyan	Mt Jerrabomberra	2	0	0	0	1	1	0	0	N/A	
Tuggeranong	Tuggeranong Hill	10	0	3	3 *	4	0	3	0	N/A	
Williamsdale		1	0	0	0	0	1	0	0	N/A	
Yass	Mt Manton	1	0	0	0	0	1	0	0	N/A	

* 2 channels if one is made available for open narrowcasting purposes (see Option 3).

** 3 channels if 2XX does not convert to FM (see Option 5)

LEGEND:

Area: The geographic area in which the channel is available. The name chosen is that of the town or region that best describes the coverage area of the channel.

Channels Available: The number of channels allotted to the area in the Frequency Allotment Plan.

Unassigned Channels: Any channel, other than an 'assigned' channel, that is allotted to the area in the Frequency Allotment Plan.

Assigned Channels: For 'National', 'Commercial' and 'Community' broadcasting services - channels for which either a transmitter licence has been issued or technical specifications are shown in a licence area plan. For 'Other' broadcasting services - technical specifications for this channel are shown in a licence area plan.

Other: Category of broadcasting service other than 'National' broadcasting service, 'Commercial' broadcasting service or 'Community' broadcasting service eg 'Open Narrowcasting' service, and spectrum reserved for 'National or Community' television.

Ministerial Notification for Reservation: The number of channels the Minister has notified the ABA to reserve for national and community broadcasting services in the area, including notification for 'national or community' television services.



**Australian
Broadcasting
Authority**

**ADDITIONAL INFORMATION ON THE
LICENCE AREA PLAN FOR
CANBERRA
(Radio)**

(This information is provided for guidance only and does not form part of the determination)

OCTOBER 1998

MAXIMUM EFFECTIVE RADIATED POWER (ERP)

Maximum ERP

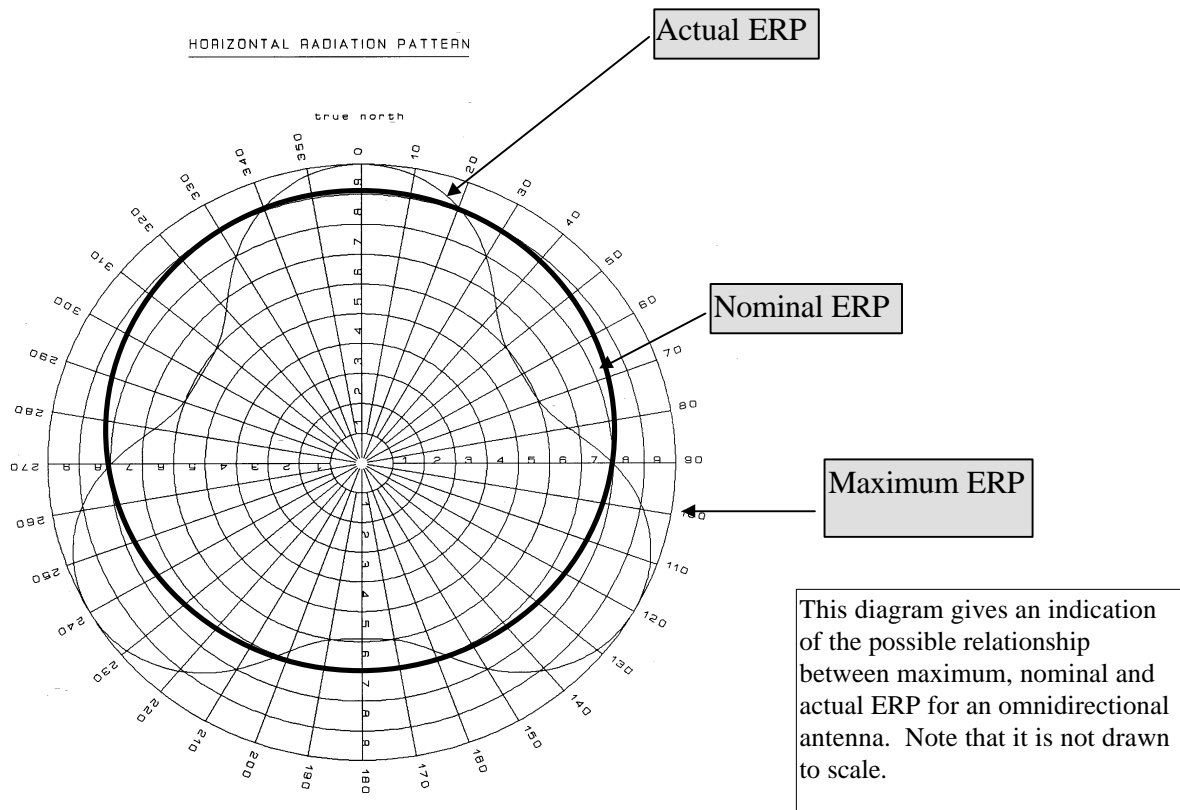
The maximum effective radiated power (ERP) specified indicates the maximum power which may be radiated from the antenna in any direction. This limit has been determined to be sufficient to provide an adequate service while ensuring other services are protected from interference and minimising overspill into neighbouring licence areas. In establishing a maximum ERP level it is recognised that a real antenna system deviates from the ideal nominal level. **This maximum ERP specified must not be exceeded under any circumstances.**

Nominal ERP

The nominal ERP is the power considered necessary to provide adequate coverage of the licence area. In a real antenna system it represents the average or mean power radiated over specified arcs. In practice, antennas do not radiate the same power at all directions within an arc. The diagram below shows this situation with a horizontal radiation pattern for an omnidirectional antenna. The construction and physical attributes of the antenna cause the actual ERP of the transmitting facility to fluctuate above and below the nominal ERP.

The actual ERP in any direction is not to exceed the maximum ERP specified.

Example: If the maximum ERP is 50kW then the nominal ERP could be 25kW. The actual ERP would then be 25kW with a tolerance of $\pm 3\text{dB}$ which describes the nominal ERP with fluctuations. This shows that the actual ERP does not exceed the maximum ERP anywhere and the transmissions therefore meet the licence specifications.



Apparatus Licences

The maximum ERP specified in an apparatus licence issued to a licensee may be different to that indicated in the LAP for that service. This would occur where a licensee has different technical requirements to those indicated in the LAP eg a different site, antenna height, etc. However, **the maximum ERP indicated in the apparatus licence will not exceed the radiation pattern envelope specified in the LAP.** This approach differs from that under the *Broadcasting Act 1942* where technical conditions specified a nominal ERP with permitted tolerances.

AM RADIO - SPECIMEN ONLY

LICENCE AREA PLAN : Canberra

Category : National
 General Area Served : Canberra (ACT)
 Service Licence Number : Not applicable

Unique number given to each transmitter

Geographical location of Transmitter Site including brief description of location and standard Australian Grid Map Reference.

TECHNICAL SPECIFICATION - AM Radio

Specification Number : TS4001001
 Transmitter Site :-
 Nominal location : Gungahlin BARTON HIGHWAY
 Australian Map Grid :
 Reference Zone Easting Northing
 55 693179 6100570
 Site Tolerance : Refer to Technical Planning Guidelines

Radius within which the transmitter could be located from the nominal location.

Emission :-

Frequency Band & Mode : MF-AM
 Carrier Frequency : 666 kHz

Broadcasting services band and mode of delivery

Assigned frequency of transmission.

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Elevation	Maximum CMF
At all angles of azimuth	0	880 V

Directions on compass in which transmissions are emitted

Any specific notes not contained in main details above.

Horizontal elevation from the ground of a radiated signal. This is the critical angle at which CMF must be limited to protect existing services.

Cymomotive Force (CMF) is the measure of the signal strength of the transmitted signal.

FM RADIO - SPECIMEN ONLY

LICENCE AREA PLAN : Canberra

Category : National
 General Area Served : Canberra (ACT)

Unique number given to each transmitter

Service Licence Number : Not applicable

Geographical location of Transmitter Site including brief description of location and standard Australian Grid Map Reference.

TECHNICAL SPECIFICATION - FM Radio

Specification Number : TS3999601

Transmitter Site :-

Nominal location : BLACK MOUNTAIN

Radius within which the transmitter could be located from the nominal location.

Australian Map Grid Reference

Zone	Easting	Northing
55	690740	6094197

Site Tolerance : Refer to Technical Planning Guidelines

Emission :-

Broadcasting services band and mode of delivery

Frequency Band & Mode : VHF-FM

Assigned frequency of transmission.

Carrier Frequency : 101.5 MHz

Polarisation : Mixed

Polarisation of radiowaves. Either vertical, horizontal or mixed to earth's surface.

Maximum antenna height : 147 m

Height of transmit antenna above ground level.

Output Radiation Pattern :-

Bearing or Sector (Clockwise direction)	Maximum ERP
At all angles of azimuth	80 kW

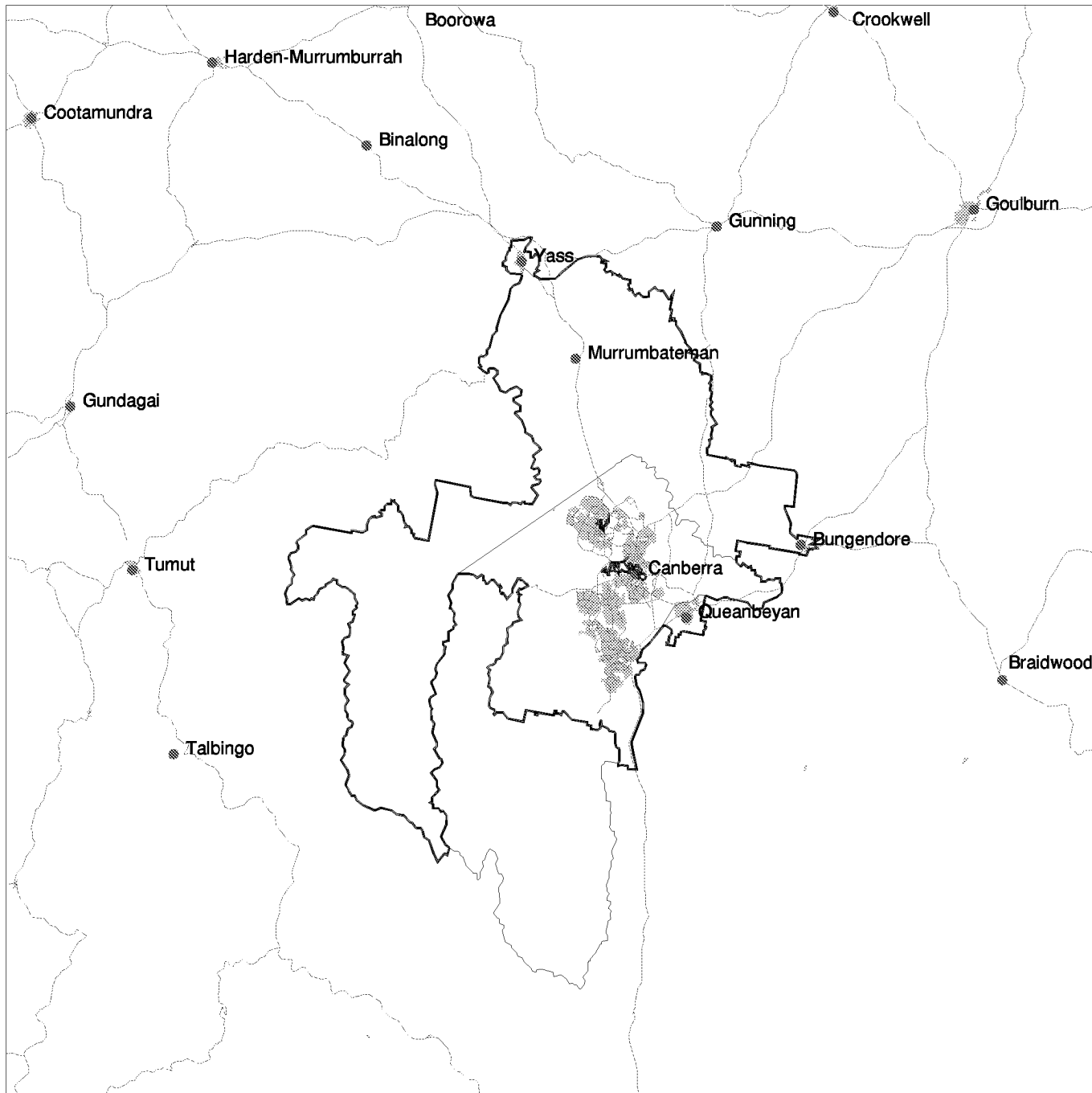
Maximum effective radiated power, a measure of the signal strength of the transmitted signal.

Directions on compass in which transmissions are emitted






Any specific notes not contained in main details above.

CANBERRA RA1

Licence Area



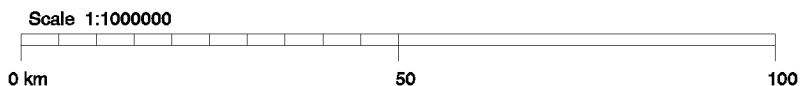
Legend

-  Built Up Areas
-  Roads
-  State Border/Coastline
-  Towns
-  CANBERRA RA1

LICENCE AREA PLAN CANBERRA - RADIO - DRAFT

SERVICE LICENCE NUMBERS:
SL1060, SL1066, SL4096
SL4097, SL1150190 - COMMERCIAL

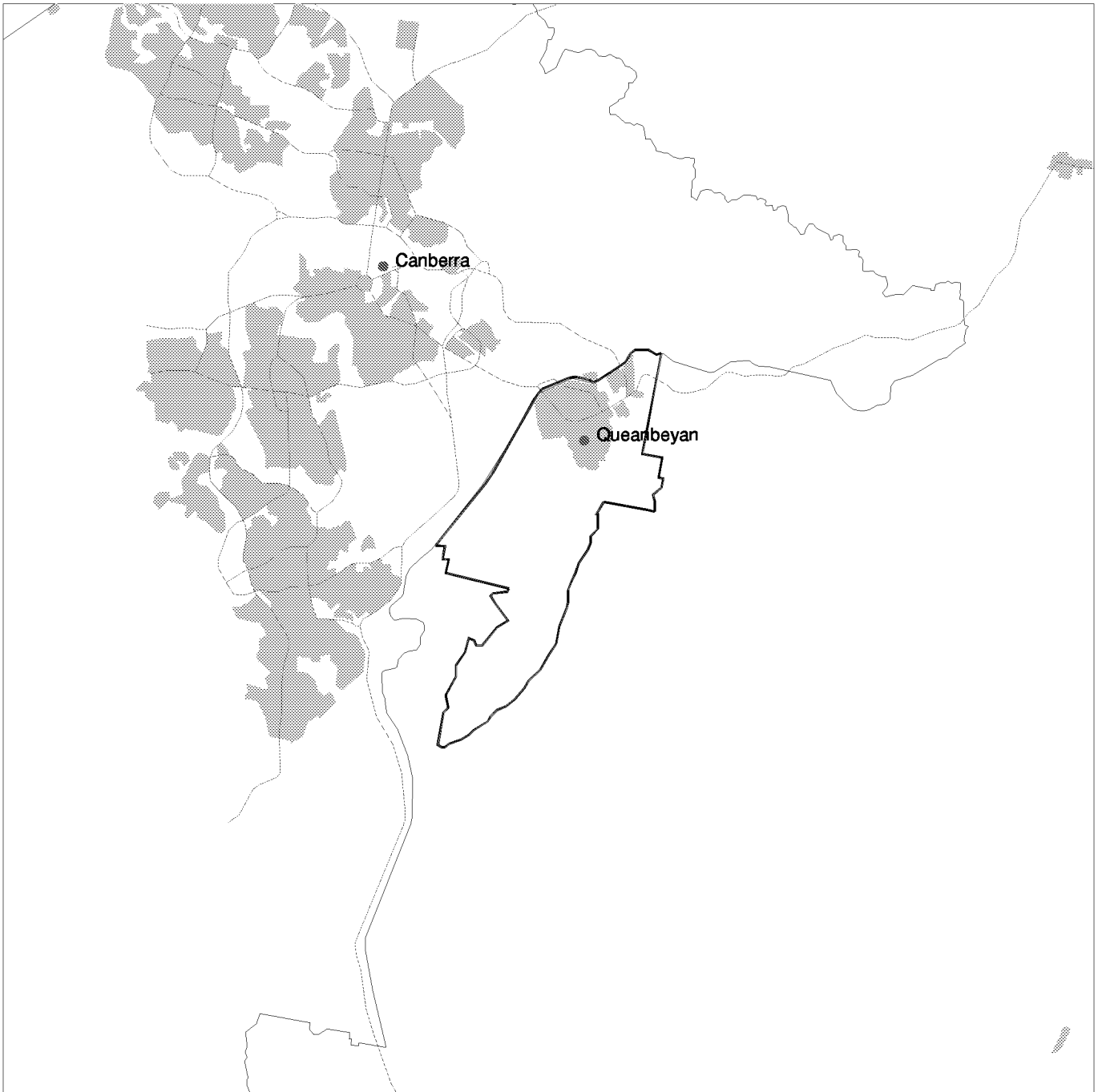
TOTAL POPULATION (1996 CENSUS):
338698








**Australian
Broadcasting
Authority**

QUEANBEYAN RA1

Licence Area



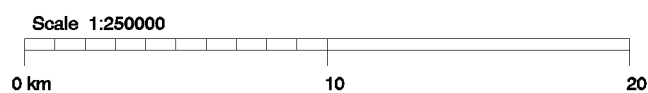
Legend

-  Built Up Areas
-  Roads
-  State Border/Coastline
-  Towns
-  QUEANBEYAN RA1

LICENCE AREA PLAN
QUEANBEYAN - RADIO - DRAFT

SERVICE LICENCE NUMBER:
SL1150158 - COMMUNITY

TOTAL POPULATION (1996 CENSUS):
27780



**Australian
Broadcasting
Authority**

DISCLAIMER: This map should be used only as a guide. The precise details are defined in the respective report.

