

**PIB 34**  
**Issue 4.1**  
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**Applications**

**for**

**APPROVED RADIO ENGINEER**

**or**

**APPROVED RADIO CERTIFIER**

**Status**

## Introduction

A *spectrum licence* granted by the *manager* of a management right must, in accordance with the provisions of the Radiocommunications Act 1989, be certified by an *Approved Radio Engineer* (ARE) as to its technical compatibility with existing radio licences and spectrum licences recorded in the *Register of Radio Frequencies* (RRF). In regard to Crown management right bands, the engineering of spectrum licences must also be in accordance with publication PIB 39 “Spectrum Licence Engineering Rules - Crown management right bands” (SLER) issued by Radio Spectrum Management (Ministry of Economic Development).

Similarly a radio licence application must be assessed for technical compatibility with existing radio licences and spectrum licences, and this work may be undertaken by either an *Approved Certifier* (ARC) or an *Approved Radio Engineer* (ARE). The engineering of radio licences must be in accordance with publication PIB 38 “Radio Licence Engineering Rules” (RLER) issued by Radio Spectrum Management.

Both spectrum licences (Crown management right bands) and radio licences must also comply with Government policies, public interest criteria and international agreements. The Radio Spectrum Management (RSM) group will continue to review all licence applications against these requirements prior to granting a licence.

Relevant extracts from the Radiocommunications Act 1989 and Radiocommunications Regulations 2001 are provided in Appendix B.

Approved persons may work either directly for an organisation in planning radiocommunications systems, or on a consultancy basis, are expected to be covered by professional liability insurance and will be subject to regular auditing of their competency.

This document sets out the procedure for seeking ARE or AC approval from the Ministry of Economic Development.

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## A Competence Standards for ARE or ARC Status

Approved Radio Engineer (spectrum licences and radio licences)

An ARE applicant will need to prove competence in engineering problems that may:

- involve conflicting technical standards and codes of practice; and
- be outside the scope of established standards and codes of practice; and
- involve a range of diverse radio technologies, applications, and radiocommunication services; and
- require originality in analysis and resolution.

An ARE must also have a thorough understanding of the spectrum rights framework as embodied in the Act, and a good understanding of the radio licensing framework as embodied in the Regulations.

The number of years of training, the range and depth of relevant experience and qualifications, and the employment history of the applicant will also be taken into account.

### Approved Radio Certifier (radio licences)

An ARC applicant will need to prove competence in technical problems that are usually:

- within the scope of well-proven analysis techniques; and
- able to be solved within defined parameters; and
- frequently encountered and which can be solved in accepted ways; and
- within the scope of well-defined rules, standards and codes of practice; and
- of a limited and localised impact.

An ARC must also have a good understanding of the radio licensing framework as embodied in the Regulations.

The number of years of training, the range and depth of relevant experience and qualifications, and the employment history of the applicant will also be taken into account.

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## **B Qualifications**

### Approved Radio Engineer

As a minimum, an applicant for *approved radio engineer* (ARE) status must hold a New Zealand Qualifications Authority (NZQA) level 7 qualification (Bachelor Degree or Graduate Diploma), or an equivalent qualification, in radio or telecommunications engineering.

“equivalent” qualification means:

- a TIPENZ member of the Institution of Professional Engineers New Zealand (IPENZ); or
- a Registered Engineering Associate (REA); or
- other comparable qualification recognised by the New Zealand Qualifications Authority; or
- competency assessment.

### Approved Radio Certifier

As a minimum, an applicant for *approved radio certifier* (ARC) status must hold a New Zealand Qualifications Authority (NZQA) level 4 qualification (National Certificate), or an equivalent qualification, in radio or telecommunications engineering.

“equivalent” qualification means:

- Radio Technicians Certificate (RTC); or
- Telecommunications Technicians Certificate (TTC); or
- other comparable qualification recognised by the New Zealand Qualifications Authority; or
- competency assessment.

### Competency Assessment

In assessing whether qualifications are equivalent, consideration will be given to:

- the educational requirements for entry to the course, that is, the number of years of schooling or post secondary study required;
- the number of years/hours of study required to complete the course;
- the range, depth and level of subjects studied; and
- the recognition of the course within the relevant profession.

An assessment of qualifications or experience may include a panel interview or peer review.

## **C Relevant Experience**

The applicant should outline his or her experience in fields of employment related to radio frequency engineering. While there is no minimum period requirement, relevant experience includes:

- experience in radiocommunications relevant to frequency assignment; or
- experience as a radiocommunications network designer; or
- experience in interference resolution and site co-ordination.

Nominated referees will be contacted to confirm the nature and relevance of the experience cited by the applicant.

The applicant will be expected to demonstrate by the range and scope of their application:

- (i) skills in prediction, recognition and resolution of radio interference mechanisms, including electromagnetic compatibility (EMC).
- (ii) an understanding of the International Radio Regulations, and the reports and recommendations of the International Telecommunications Union in regard to radiocommunications; and
- (iii) a sound knowledge of the New Zealand radiocommunications environment; and
- (iv) a good understanding and knowledge of the regulatory framework for spectrum management; and
- (v) an understanding of the issues in regard to the siting of telecommunication facilities, including electromagnetic radiation (EMR).
- (vi) proficiency in the English language.

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## **D Professional Indemnity Insurance**

It is strongly recommended that approved persons be covered by professional indemnity insurance, either as an individual or as an employee of (or contractor to), an organisation. Where an approved person is relying on his or her employer's insurance, that person should not issue certificates other than as a part of his or her employment or contract.

In regard to ARE's, the accountability provisions of s109A of the Act should be noted.

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## **E Completing an Application**

The application must include:

- a statement as to whether the application is for ARE status or ARC status
- the full name and business or residential address of the applicant;
- contact telephone and/or fax numbers of the applicant;
- postal and/or e-mail addresses of the applicant;
- the relevant educational qualifications of the applicant;
- the relevant work history of the applicant;
- the names, addresses and telephone numbers of at least two referees who can verify aspects of the information provided;
- a declaration, signed by the applicant, that the information in the application is not false or misleading.

Note:

- (i) The name of a successful applicant will be published on the RSM website. Unless the applicant specifically requests their contact details be withheld, they will also be published on the RSM website.
  - (ii) Approval may only be granted to 'natural persons', that is, individuals as opposed to corporations or other business entities.
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## **F Submitting an Application**

An applicant for ARE or ARC status must submit an application (Appendix A) in writing to the:

The Manager  
Radio Spectrum Management  
Ministry of Economic Development  
PO Box 2847  
WELLINGTON 6015

Email: [info@rsm.govt.nz](mailto:info@rsm.govt.nz)

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## **G Assessment of Applications**

On receipt of an application for approved status, RSM will, as soon as practicable, evaluate the claims in the application and contact referees nominated by the applicant to confirm those claims. If RSM is satisfied that the applicant has provided sufficient evidence to support approval, ARE or ARC status will be granted. RSM may appoint a panel of one or more persons to peer review applications.

If the applicant is refused approval, he or she will be formally advised in writing of the reasons for the refusal.

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## **H Granting of Approved status**

Following the decision to grant the applicant approved status, RSM will issue a formal letter or approval. The grant of approved status:

- is usually for life but may be reviewed at any time (e.g. five-yearly intervals);
- will be subject to regular certificate audit;
- may be surrendered by the accredited person;
- may be withdrawn by RSM.

It is the responsibility of the approved person to notify RSM of any change to contact information, or other circumstances that may affect the persons approved status.

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## **I Engineering Certification Audit**

Approved persons are required to keep all documents relating to the issue of a certificate, including engineering calculations and technical notes, for a period of 5 years from the date of the certificate. In the case of spectrum licences it is recommended that documentation be retained for

the term of the management right. RSM will audit this documentation on a regular basis in accordance with the Audit Manual (PIB 40). This process may include requiring the approved person, to provide copies of engineering documents to RSM.

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## **J Withdrawal of Approved Status**

In some circumstances, RSM may consider whether the withdrawal of a person's approved status is appropriate. This may be done where the approved person:

- has demonstrably failed to apply spectrum management principles and criteria for spectrum licences as specified in section 25 or section 57D of the Radiocommunications Act 1989;
- has demonstrably failed to meet spectrum management principles and criteria for licences as specified in the Radio Licence Engineering Rules (RLER – PIB 38) or Spectrum Licence Engineering Rules (SLER – PIB 39); or
- has submitted an application for approved status which includes false or misleading information.

If RSM believes that consideration of withdrawal of status is appropriate, a notice of investigation will be forwarded to that person. The person will then be given the opportunity to show cause why his or her status should not be withdrawn. RSM may appoint a panel of one or more persons to consider withdrawal of approved status.

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## **K Review of Decision**

Where a person has had their status withdrawn, he/she may apply for a review of that decision. A written request should be made to RSM within one calendar month of the decision. RSM may appoint an independent person to review the decision.

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## **L Access to Licence Records and Documents**

(1) Technical information relevant to the engineering certification of radio licences and spectrum licences can be found at:

<http://www.rsm.govt.nz/cms/licensing/engineering-certification>

(2) Radio Licence applications can be made online via

<http://www.rsm.med.govt.nz>

or via paper based application using forms available at:

<http://www.rsm.govt.nz/cms/resource-library/forms/licensing-forms>

(3) Certification of radio and spectrum licences requires access to the *Register of Radio Frequencies* (RRF). A short-form copy of the register can be accessed on-line at:

<http://spectrumonline.med.govt.nz/>.

Under section 28 of the Radiocommunications Act 1989 certain records in the register may not be available for public search in the interests of national security or defence.

Some of these services operate in bands shared with commercial services. In such instances special co-ordination rules apply and these are detailed in the RLER manual.

As an alternative to the co-ordination rules, Approved Persons may wish to seek RSM agreement to negotiate security clearance for access “suppressed” records. Contact RSM for further details.

For more detailed information a downloadable database with search utilities is available, together with training guides.

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APPENDIX A

# Application for Approved Radio Engineer (ARE) or Approved Radio Certifier (ARC) Status

Print clearly and attach copies of relevant documents (qualifications, references etc)

Applicant's Details	
<b>Name</b>	<b>Residential or Business Address</b>
SURNAME	
GIVEN NAMES	
	Postcode
<b>Contact Information</b>	<b>Postal Address</b>
Home Phone:	
Work Phone:	
Mobile Phone:	
Fax:	
E-mail:	
	<b>Status Applied For:</b> (ARE or ARC)
<b>I hereby declare that</b>	
<p>(1) The information provided in this application is not false or misleading and that I will notify the MED of any changes of address, or other changes of circumstance, that are relevant to my approved status.</p> <p>(2) I will only certify licences in regard to which I believe I have the requisite level of technical competency.</p> <p>(3) I will not, in regard to any information that may come into my possession concerning withheld records under section 28 of the Radiocommunications Act 1989, divulge the information to other persons.</p> <p>(4) I will retain records relating to certifications I make for a period of 5 years, and produce these on request to the MED.</p> <p>(5) I accept that my name and approval number will be published on the MED website, and that certificates I issue may be subject to audit.</p> <p>(6) I agree to my contact details (postal address, work phone, email and fax) being published on the MED website (Delete this line if you do not agree)</p>	
<b>Signature</b>	<b>Date</b>

## **APPENDIX B LEGISLATIVE PROVISIONS**

### **Radio Licences**

Regulation 12 of the Radiocommunications Regulations 2001 states that

In determining whether to grant a radio licence or a general user radio licence or an exemption, the chief executive must take account of—

- (a) any agreement between New Zealand and any other country or countries relating to radiocommunications; and
- (b) the technical compatibility of existing radio licences and spectrum licences with the radiocommunication service for which the radio licence or the general user radio licence or the exemption is required; and
- (c) the public interest in achieving the maximum benefit from radiocommunications; and
- (d) any general policy of the Government made in accordance with section 112 of the Act.

### **Spectrum Licences**

Section 25 of the Radiocommunications Act 1989 (the “Act”) states that:

- (4) The Registrar [of Radio Frequencies] must not register any licence unless the Registrar receives, from or on behalf of the applicant for registration, a certificate from an approved radio engineer dated not more than 3 months before the receipt of that certificate by the Registrar.
- (5) The radio engineer’s certificate must certify that, in the opinion of that engineer, the exercise of the rights to which the spectrum licence relates -
  - (a) will not endanger the functioning of any radionavigation service; and
  - (b) will not endanger the functioning of any radio service essential to the protection of life or property; and
  - (c) will not cause harmful interference to rights conferred by registered spectrum or radio licences; and
  - (d) is technically compatible with services authorised to be operated under existing spectrum licences and radio licences; and
  - (e) will sufficiently define the protection area and the nature and characteristics of the proposed transmissions to enable subsequent spectrum licences and radio licences to be co-ordinated with the exercise of rights to which the spectrum licence relates for the purpose of avoiding harmful interference.”

Section 72A of the Act states that:

“Before issuing a certificate under section 25 or section 57D, a radio engineer must have regard to –

- (a) the International Radio Regulations; and
- (b) the ITU-R reports and recommendations; and
- (c) Annex 10 to the Convention on International Civil Aviation; and
- (d) the International Convention for the Safety of Life at sea; and
- (e) the nature of the service proposed to be operated under the spectrum licence; and
- (f) any relevant reference standards issued by the Chief Executive.”

Section 130 (1) of the Act permits the Chief Executive to grant qualifying applicants "...an approval authorising the applicant to give certificates for the purposes of sections 25, 39, 40, and 57D."

Section 130 (2) of the Act requires that:

"The Chief Executive shall not approve a person under subsection (1) of this section unless the person is, by reason of his or her qualifications and experience in radio engineering, a suitable person to give certificates for the purposes of sections 25, 39, 40, and 57D."

2.3 Section 130 (3) of the Act states that:

"Where the Chief Executive is satisfied that any person approved under subsection (1) of this section is no longer qualified by virtue of subsection (2) of this section to be an approved radio engineer, the Chief Executive may revoke that person's approval."