A
FOUNDATION LICENCE
HANDBOOK

A guide to information when considering a
"FOUNDATION LICENCE"
for entry into

AMATEUR RADIO

in
New Zealand

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ARC067, ARX2106, ZL2AMJ

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This booklet can be downloaded from:
http:/www.qsl.net/zl2amj/booklets.html

Foreword

If a "Foundation Licence" qualification is to be considered for New Zealand, there are **many** questions that will require answers. The United Kingdom version or the Australian version cannot just be picked up and adopted here in New Zealand.

Answers to these questions will be required and **before** a decision is made to introduce any new and additional grade of qualification - whether it is "Foundation" or whatever its proposed purpose and name is to be. This HANDBOOK is prepared as a guide for anyone to use during their considerations for a new "grade" of qualification.

A personal statement:

I wish to make it quite clear:

At the time of preparing this Handbook, I am neither for nor against a "Foundation-type" qualification for New Zealand. If it can be shown that such a development will increase and sustain the numbers of new radio amateurs entering, I will support it. Convince me with a demonstration of the need for the many changes necessary and with convincing answers to the questions and the circumstances explained in this booklet.

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About the compiler of this document:

Now retired, Fred Johnson has an extensive background in radio, in teaching radio engineering and in the development of training courses.

His career includes service in the NZ Regular Army, RNZEME (Royal NZ Electrical and Mechanical Engineers) to the rank of Captain, training on an Officers Long Electronic Engineering Course in the UK and as Officer in Charge of the Telecommunications Workshop at Trentham Camp. He is a Chartered Engineer, a Member of the Institution of Engineering and Technology, and a Fellow of the Institution of Professional Engineers New Zealand.

He was a Tutor in Radio and Electronics at the Central Institute of Technology, appointed Head of that Department of Electronic Engineering, appointed Inspector (Technical) in the Department of Education, Wellington, before being appointed Head of the Department of Electrical Engineering at the NZ Technical Correspondence Institute (TCI).

Fred has been involved in developing many national training courses and has been an examiner in electronics and telecommunications subjects for the NZ Trades Certification Board and the Authority for Advanced Vocational Awards.

His teaching subjects include Radio Technology I and Radio Technology II in Years 4 and 5 of the New Zealand Certificate in Engineering (Telecommunications).

In 1982-83 he was a consultant to the Singapore government's Vocational and Industrial Training Board, helping to develop a syllabus for a course in Industrial Instrumentation to meet the needs of Singapore.

Fred passed the Amateur Radio Examination while in the Upper Sixth Form at Wellington College, was licensed as ZL2AMJ in October 1950 and has held that callsign continuously since.

He served on the Council of New Zealand's amateur radio society, the New Zealand Association of Radio Transmitters Incorporated (NZART), for two years from 1960 and then continuous from 1972 to 2003, was NZART President 1973-74.

Fred has attended numerous international conferences and been heavily involved in international amateur radio affairs. He has instructed at Amateur Radio Administration Courses in Tokyo in 1986, 1991 and 1993, a similar course at Ho Chi Minh City, Vietnam in 1998 (where he held the callsign 3W6AMJ) and another course in Tehran, Iran, in 2004. These are 3 to 5-day courses to help government radio administrators with regulatory, licensing and other issues concerning the Amateur Service.

He was Project Manager for the International Amateur Radio Union's (IARU) Display Stand at the International Telecommunication Union's "TELECOM Asia 2000" exhibition in Hong Kong, December 2000.

Fred has produced training material to encourage people into Amateur Radio, developed much of the present New Zealand Amateur Radio Examination question-bank and developed the on-line Study Guide and other training material in current use. He has described much simple amateur radio transmitting and receiving equipment for beginners.

Fred has written numerous articles on distance education, on the use of computers in distance education and on their use for improving the readability and the simplification of text for use in distance teaching.

He has produced countless articles in NZART's amateur radio journal "*Break-In*" since 1955, many being re-published in amateur radio journals overseas.

Appointed an MED RSM "Approved Radio Certifier" (ARC067) in November 2005 and "Approved Radio Examiner" (ARX2106) in June 2008.

CONTENTS

*References in this booklet

Throughout this booklet, references in the form: [Ref: 1], are made to the serial number of links listed on the last page in this booklet.

That last page is available separately as a downloadable .doc file. That file can be used as a table of “hot links” to assist your studies.

Self-training...

The prime definition for the **Amateur Service** is in the International Radio Regulations:

> **“1.56** *amateur service:* A *radiocommunication service* for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest.**”**

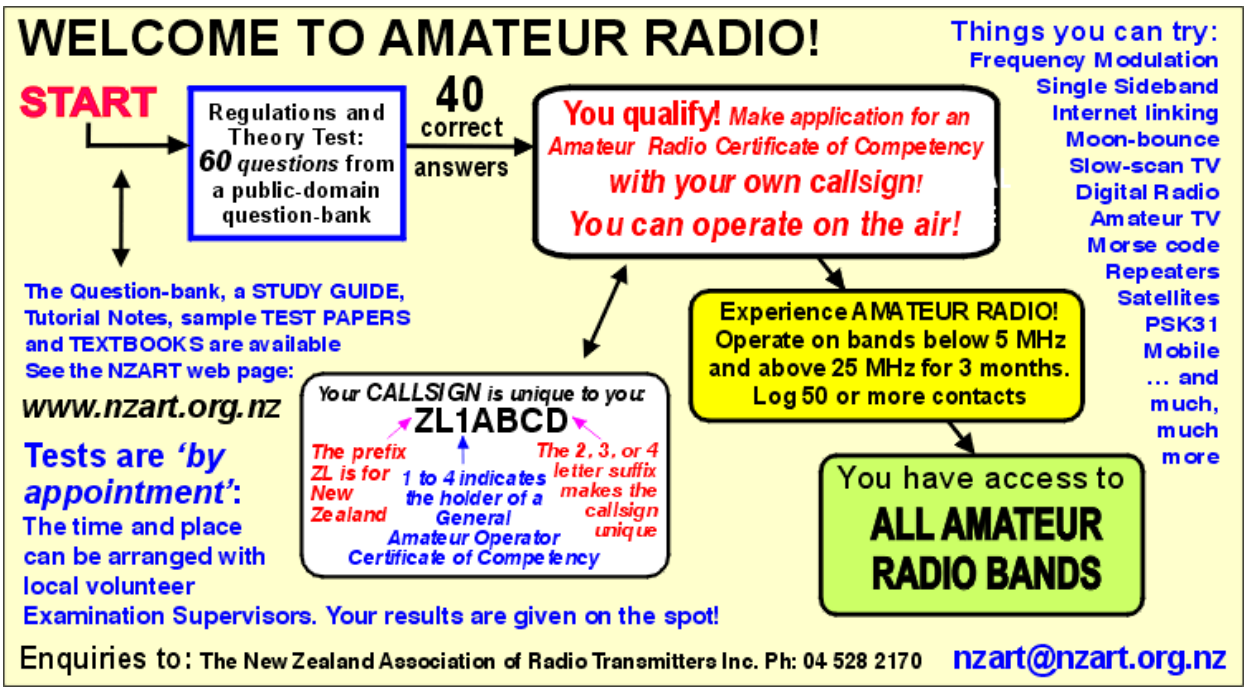
Note the mention of “self-training”. A successful radio amateur is self-driven. New recruits should also be self-driven. More than attendance at classes – of any kind – is required to be a radio amateur.

Self-training must be encouraged, and is expected, from the very start.

1. The present system

The NZART web pages carry explanations of how to qualify to become an amateur radio operator in New Zealand. Discussions with many radio amateurs give the impression that few have bothered to study or to understand how the present system is structured. As a result, some error-filled views are often heard. This is surprising because the details have been readily available for many years in the booklet: *"Amateur Radio: The New Rules Explained"*, downloadable from the website. [Ref: 1].

This flow-chart shows the pathway:



Of particular note:

There is now only one "grade" of qualification so there is now no potential for a *"them and us"* attitude division between operators holding different grades of qualification.

The ***New Zealand Radiocommunications Regulations*** are available on-line. [Ref: 2.]

Regulation 24 provides for the issue of *"**certificates of competency**"* and Schedule 3 gives names to classes of certificate: for amateurs it is the *"general amateur operator's certificate"*. For brevity, we will call it the *"amateur operator's certificate"*.

> (The word "general" is understood to be a legacy word, continued, brought forward it seems, to make it easier for the transition and setting-up of SMART – Spectrum Management and Registration Technology – the new database now in current use by the New Zealand administration, the Radio Spectrum Management Group of the Ministry of Economic Development.)

The certificate of competency carries the callsign that can be used by the certificate holder. A typical sample of the certificate appears in the *"New Rules"* booklet. [Ref: 1].

The operating privileges for radio amateurs are listed in a *"**General User Radio Licence**"* [Ref: 3.]
The **HAREC** recognition of the NZ qualification is at [Ref: 9.]
This present system came into force in 2004, is widely accepted and has been unchanged since.

An additional facility was provided in 2009. It has been reported in various amateur newsletters:

On-air training for Examination Trainees

The February 2009 "Monthly Business Update" from the MED RSM announces a new facility for the training of budding radio amateurs.

The RSM publication "*Radio Operator Certificate and Callsign Rules*" (PIB 46), applies to the holders of radio operator certificates and callsigns. It has been updated following comment from interested parties. The latest version (Edition 008) can be downloaded from: http://www.rsm.govt.nz/cms/resource-library/publications/approved-persons/pib-46.

A new provision (on page 8) permits **unqualified persons under training** to operate an amateur station on-air with a club callsign, **under the close supervision of a qualified operator**. Until now, there have been no regulatory provisions to lawfully permit such activity. Unqualified operators, "Examination Trainees" undergoing supervised training, can now take the active part to set up a transmitter on-air, call and establish a QSO and take part in general communication and its procedures.

Training sessions using a club callsign do not require any prior official approval except the permission of the trustee of the club callsign. The discipline of log-keeping is exercised by the requirement for this club callsign activity to be logged by the persons involved and the log retained by the trustee.

The new provision reads:

> "Club station trustees may authorise the use of the suffix "XT" with the club's permanent callsign for the purposes of instructing and training prospective amateur operator candidates in practical on-air operating procedures. Provided they are directly supervised at all times by a GAOC holder, candidates may take an active part in general communication, operate transmitter controls, and engage in calling and signing off procedures. A log of contacts made under a candidate's name using the XT callsign, must be kept by the trustee for 1 year after the last contact is made by a candidate."

So expect to hear club callsigns such as the Wellington VHF Group's club callsign being operated by Examination Trainees: ZL2WAXT.

As with all uses of a club callsign, if you have the opportunity to use your club callsign with this XT facility, you must first ask your club callsign trustee. Remember that close supervision by a qualified operator is required and that the trustee is required to retain the final logsheets.

This **authorised** practical on-air tuning-up provision and purposeful identifier is a step forward for the training of new operators. This activity can be blended into future club training events. Please work the XT stations that you hear and encourage the operators.

The news announcement is at: http://news.business.govt.nz/news/info/rsm/

This new facility provides access by unqualified amateurs-to-be to use transmitting equipment hands-on live on-air under supervision for training purposes: How to properly set-up a transmitter; how to conduct a contact; the use of callsigns; and to experience the thrill of a real contact.

2. Decisions ... for a new qualification grade

Remember, that as you read this, with only one grade of qualification, ALL New Zealand radio amateurs are EQUAL. There is no "them and us" anymore. As a result, our present regulatory rules are ***very*** simple.

Your ideas for another qualification will come under close scrutiny. Here are some of the issues:

A separate series of Callsigns to be used to identify a new qualification holder?

1. A separate Callsign series? You want to go back to having "***them and us***?" You want a separate series so that the holder automatically announces by the callsign format, on every "over", the qualification grade of the operator?
2. Perhaps a 4-character-suffix callsign series like the Australian ***VK2Fabc*** format?
3. A distinctly strange series - so that some new holders would avoid going on the air and instead would immediately study for the higher qualification grade with its "normal" callsigns? "Up grading" would mean a change of callsign.

So, if we have two grades, is it compulsory to pass through the two grades in sequence?

1. Is your Foundation qualification a compulsory first step so that all new radio amateurs ***must*** pass through it – and ***must*** use it for a period on-air before sitting a second examination for the next licence grade?
2. Is your proposed Foundation qualification to be once-only non-renewable, for (say) two-years only, or is it to be for life?
3. A distinct identifying name for the qualification grades must be decided – "Entry", "Foundation" or "Junior" – with "Full" or "General" – or what?

Direct entry to the "top" qualification?

Is direct-entry to the existing "top" grade to be retained - thus making it possible to avoid the Foundation qualification altogether?

Regulatory privileges/conditions?

New and distinct regulatory conditions for a new grade must be determined. Power level? Modes? Sub-bands on how many of our amateur bands? On which bands? (*These matters make ideal topics for Remits to National Conference and could keep NZART conferences occupied for the rest of the century. Some want more, some want less … these can always be argued*.)

Examination provisions

1. Are examinations/tests to be "by appointment" or to be at fixed advised annual times?
2. If there is to be "practical content", who trains and tests the assessors? How is their individual instruction and testing competency to be decided/determined?
3. How is country-wide coverage of qualification testing to be arranged? With volunteer assessors? How are they to be selected? Do sufficient volunteers exist and are they adequately distributed across the land?

The form of tests/assessments

1. The form of the test or assessment must be decided and written questions or example questions developed. Perhaps a public-domain question-bank? Who will do this? Who will moderate it all?
2. In your testing system, are any "partial passes" possible or to be permitted? If so, what is the mechanism for centrally recording them?
3. Appropriate teaching and reference material must be developed. Who will do that? Remember that if material imported from overseas is to be used, it must be competently edited for local conditions.
4. What other educational equivalent qualifications, if any, can give exemptions? Are any examination or test exemptions to be permitted?
5. Do you have ideas for computer-based examinations/testing? On-line? Downloadable? Who is to arrange all this?
6. Is the new "regulatory" component of your test to be identical and the same "regulatory" component in the existing examination? If so, what "partial pass" provisions are made?

Regulatory issues

1. A high level of regulatory question content in an entry test must be expected – all the new qualification's unique rules and requirements and especially any sub-band and power limits must be known.
2. Changes, and certainly additions, must be made to the regulatory questions used in the existing examination. Who will do this?
3. Have you estimated by how much the existing Amateur Radio Examination must have its question-bank question numbers increased to test knowledge of the changes and additions to the Radio Regulations required to accommodate your new qualification?

Equipment

Is on-air operation by holders of your new qualification to be constrained to the use of (approved?) commercial gear only? No home construction of antenna tuners, antennas or keyers? No simple battery-driven single-transistor crystal oscillators? No home-brew receivers?

Do you expect the holders of your new qualification to be permitted to operate their own station without supervision, or does your new qualification require live supervision by an experienced radio amateur at all times?

What makes your proposal different?

1. The Australians once had FIVE grades of individual amateur radio operator licence. They have now reduced them to **THREE** grades. That is progress. In New Zealand we once had **THREE** grades. We have reduced them to ONE. That is **real** progress.
2. But most important, can you convince others that your new qualification will really fly in the present NZ circumstances and that it won't go the way of the now-historic "Novice Licence" with its many similar pre-release solve-all promises by its promoters.
3. What makes your proposed "new qualification" different to the old "Novice Licence"?
4. What makes ***you*** think that a "new qualification" would increase radio amateur numbers and the national Association membership? You must be convincing.

3. Some demographic observations:

The relative ***general*** populations:

New Zealand:	4 115 771	(July 2007 est.)
Australia:	20,434,176	(July 2007 est.)
United Kingdom	60,776,238	(July 2007 est.)

(Source: "*The World Factbook*" – search for it on Google.)

The relative ***Amateur*** populations:

New Zealand:	5 464
Australia:	15 328
United Kingdom:	58 426

(From the IARU web page – the latest figures shown there, all for the same year, 2000)

From these figures (accepting that they are many years apart), it can be broadly assumed:

1. The Australian population is about **5 times NZ**, but the amateur population is less than **3 times NZ**.
2. The United Kingdom population is **15 times NZ**, but the amateur population is only a little more than **10 times NZ**.
3. The penetration Amateur Radio has made into the New Zealand population is very much greater than elsewhere.

In both the United Kingdom and in Australia, the size of the population "fishing ground" for new radio amateurs is very, very much greater in person-numbers than in New Zealand.

In New Zealand, Amateur Radio has already made a deeper penetration into the population than in these other two countries. Australia and the United Kingdom have some catching-up to do.

4. Today ... in Australia

In 2007: The Annual Report of the *Wireless Institute of Australia* for the Year Ending December 2007 was distributed with the March 2008 issue of their journal, *"Amateur Radio"*. It provides information about membership size and the society's operations with comment on some aspects. The following are figures extracted with some interpretations added:

On 31 December 2007 there were 4,302 members as against 4,114 on 31 December 2006. (This is a gain of 188 members. No indication is given about any of these 188 having any direct connection with the Foundation Licence system.)

The WIA has set up an extensive training system with the selection and appointment of officials: Nominated Assessors, WIA Assessors and WIA Learning Facilitators. These are shown as totalling 126. The detail and tasks of these volunteers are given on the WIA website. [Ref: 4.].

The level of Foundation Licence activity is given as:

> "In the 2007 Calendar year (with the 2006 year figures in brackets) 810 (1,150) Foundation assessments were processed. 743 (1,065) candidates were successful in obtaining the Foundation qualification. 69 (85) separate practical assessments were processed, all successful, 196 (171) Standard Theory assessments were processed with 149 candidates successful, 118 (87) Advanced Theory assessments were processed with 83 successful and 212 (208) Regulations were processed, in all 1,405 (1,701) assessments being processed during the period."

The following comment is extracted from the report:

> "The Board notes the decline in total assessments, and believes that the pent-up demand following the changes to the licence structure is now largely met in many areas of Australia. That means that promoting and marketing amateur radio and the amateur radio qualification is now an important task for the Institute and its affiliated clubs."

With the size of the volunteer training team involved, the decrease in numbers of assessment through-put candidates compared to the previous year, and with an overall gain of only 188 new WIA members from a more-than-seven-hundred through-put, this distant observer in NZ is uncomfortable with expectations from a Foundation Licence grade and an immediate cautionary rather than enthusiastic view of a Foundation qualification is indicated.

The report of course does not address some aspects, for example, how many Foundation Licensees are still active in Australia after 12 months, how many have "upgraded" and how many are members of WIA?

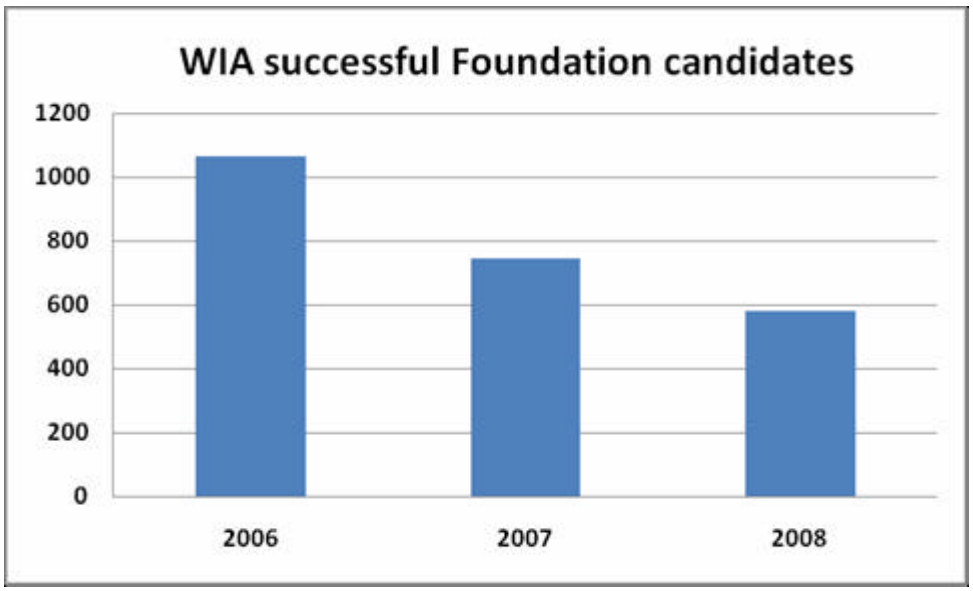
If the intention to introduce a "Foundation-type" qualification in New Zealand becomes serious, enquiries on these and other aspects should be made.

In 2008: The Annual Report of the *WIA* for the Year Ending December 2008 was distributed with the March 2009 issue of the journal, *"Amateur Radio"*. It provides information about membership size and the society's operations. The following are figures extracted with some comments.

On 31 December 2008 there were 4,376 members as against 4,302 on 31 December 2007. (This is a gain of 74 members compared with a gain of 188 in the previous period.)

The following comments are extracted from this latest 2008 report and should be compared with the similar comments of a year earlier:

> "In 2008, 1,228 assessments in all were processed, compared with 1405 in 2007 and 1701 in 2006. However, the distribution of those assessments was different from previous years, with 608 Foundation assessments processed, compared with 810 the year before, with 580 candidates successfully obtaining the Foundation qualification, compared with 743 Foundation candidates successful the year before."
>
> *And...*
>
> "The Board is encouraged by the number of candidates upgrading, but also notes the steady decline in Foundation assessments. The Board believes that the pent-up demand following the changes to the licence structure is now largely met. It is now necessary to promote amateur radio generally and in association with the clubs and this will be an important task for the Board in the 2009 year."



5. Today ... in the United Kingdom

Statistics about the present position and effectiveness of the Foundation Licence in the UK appear from time-to-time but are are seldom revealed in a form suitable for an in-depth analysis.

The RSGB General Manager in an editorial in the November 2007 issue of "RadCom" gave several indications:

> *"In 2002 the RA/RSGB introduced the Foundation Licence, again the doubters said that we were giving away the crown jewels and that because Foundation Licence holders had access to HF no one would progress to the Advanced licence. The reality is completely different. Nearly a thousand Foundation Licence holders who have sat the examination since 2002 have progressed through the intermediate stage to go on to hold an Advanced Licence. Progress? Yes, because the UK now has an amateur radio licence structure that is the envy of the world, with many societies copying the UK model.*
> *Towards the end of the nineties, fewer and fewer people were taking up the hobby, since 2002 an average of two thousand candidates a year have sat the Foundation licence examination, of course not all those stay in the hobby. But then the Foundation licence was designed to give people the taste of amateur radio and nothing more."*

With a population some fifteen times the size of NZ, 2000 candidates per year represents an equivalent of some 133 per year in NZ circumstances. But this is the "passing through" figure. The real result appears to be quite different: *"... nearly a thousand ... have progressed since 2002 ... to hold an Advanced licence."* So, in five years, if the interpretation is correct, this represents 200 per year and translated to NZ it represents 13 full licensees generated per year.

The details of the UK system are available at the RSGB and OfCom websites. [Ref: 9.].

For such a labour-intensive training system, if this analysis shown above is correct, the effort-effectiveness is in doubt. Again, more details are required.

The RSGB Annual Report, published in "RadCom" April 2009, page 43, (for the period 1 January to 31 December 2008) includes the entry:

> *"The Society's membership on the 31 December was 22,532 compared to 22,791 at the start of the reporting period."*

This is a **decrease** of 259 members.

6. A "Novice Grade" mini-history

Extract from "*Break-In*" April 1975, page 104, in the list of Remits for the 1975 NZART Conference to be held at Rotorua: This is the start of the New Zealand "Novice Licence", (following Australia):

> ***Remit 8 (Rotorua Branch) Transmitting***
>
> *The Post Office to consider the issuing of a Novice Licence for CW only, 10 Watts DC output, for use on selected parts of 80 Mtrs and Frequencies above. The present Technical Examination plus a 5 WPM Morse Test and the licence to run for TWO years ONLY.*
>
> ***Explanation***
>
> *It is felt that many prospective Amateurs are being lost due to the present swing towards expensive commercial gear and that this Novice Licence might give some of the younger people a chance to get more interested at low cost.*
>
> (The above is copied as in the original print, including the errors.)

Extract from "*Break-In*" July 1975, page 198, in the Report of the 49th NZART Annual Conference, Rotorua, 1975:

> *After the remit had been put to the meeting and initial discussion took place it was agreed by Conference that a group under ZL2BAM should be set up to leave the meeting and formulate a remit on the novice licence and this was carried.*
>
> *Subsequently the group came back to the meeting with the following remit*
>
> > *"That the Association approach the Post Office with a proposal for a novice licence, the requirements for this licence being:*
> > *(a) A mark of 40 per cent on the theory exam set for grades II and III.*
> > *(b) Morse at 8 words per minute and regulations examinations as for the existing grades of licence.*
> > *The licence to run for one year, non renewable and be transferable for a grade II licence on obtaining a 50 per cent pass in a further theory exam. The licence would entitle the holder to operate CW only on the 80 metre band at a DC power input of 10 watts."*
>
> *This proposed remit was then discussed at length and after discussion this was put and carried.*

(There were many changes in later years to the requirements for the Novice Licence.)

Extract from "Break-In", July 1976, page 257, from the address to the NZART Golden Jubilee Conference, North Shore Teachers College, Saturday June 5, 1976 at 9.15 a.m. by the Post-Master General, the Hon. Hugh Templeton:

> *The introduction of a Novice Certificate to widen the numbers of amateur radio hams is a fruitful way of celebrating a Golden Jubilee. For our system depends on the renewal of talent. And the younger and the more enthusiastic who may be brought in will ensure a further and more fruitful 50 years for the Association in its continuing development. You have helped create the global village in which we live.*

Extracts from *"Milestones"* – from the NZART website:

1977 Novice grade licence introduced.
2001 New Radiocommunications Regulations. 12 October.
Novice grade removed.
Five words-per-minute Morse speed for General grade licence.
2004 Now only one grade of licence: Limited Licensees become General Licensees.
Showing competency in Morse code is no longer mandatory for any New Zealand licence.

Extract from Council Paper 8/21 from ZL2AMJ to the NZART Council meeting, February 1999, a sample of typical statistics of the Novice era:

The end-of-month statistics from MOC for 1998 are:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No Fee	27	27	27	27	27	27	27	27	27	28	28	28
Repeaters	211	211	211	211	211	211	211	211	211	211	213	213
Beacons	37	37	37	37	37	37	37	37	37	38	39	39
General	3697	3686	3680	3678	3671	3663	3660	3651	3647	3638	3633	3625
Limited	2088	2073	2062	2057	2040	2017	2000	1991	1990	1977	1957	1947
Limited + Novice	67	67	67	68	68	69	68	67	67	65	64	64
Novice	29	29	29	29	29	29	30	29	29	30	30	30
Totals	6156	6130	6113	6107	6083	6053	6033	6013	6008	5987	5964	5946

The continuing downward trend can be seen.

On a percentage basis, Limited is ***decreasing THREE or more times faster*** than General.

From a review of NZ amateur radio statistics during the lifetime of the "Novice Licence" (1977 to 2001, 24 years), the total of "raw Novice" was always about half of the "Limited plus Novice".

The sum of "Limited plus Novice, plus raw Novice" was less than 100, i.e., less than 2% of the other operator grades.

The "throughput of names" into the higher grades was not great. People who obtained a Novice pass often chose to re-sit the examination later and didn't even bother to take out a Novice callsign.

Today, in 2009, eight Novice grade licences are still current. They are "managed" outside the Ministry's SMART system in the older "SpectrumOnLine" system and continue with the "Novice-series" callsigns under the Novice licensing conditions that were previously in force.

This legacy grade is expected to continue until each licensee decides to cancel, becomes a silent key, or until each licensee has sat and passed the current NZ amateur radio examination.

At least one Novice has "upgraded" to General grade by passing the examination and by choice has retained the Novice-format callsign. So the original "Novice" callsign series is no longer exclusive for the Novice grade and should now be available for those of General grade who seek a vanity callsign in the N series.

7. Changing the Regulations to accommodate a new licence grade

Schedule 4 of the Radio Regulations provides for only ONE grade of qualification: the “General amateur operator's certificate”. [Ref: 4.]

To provide for a new additional grade of qualification, changes will need to be made to the New Zealand Radio Regulations. This is serious stuff, it requires the services of specialist legal-trained government officers in several departments and can take a very long time. It has to take its turn with other legislation and it is work that is not undertaken lightly.

Once a new system is embedded in the Regulations, it usually takes a very long time to get it modified or to get it removed should it not perform as expected.

Any scheme for a new added qualification must be properly thought-out and impeccably prepared before it is submitted for regulatory consideration.

8. Consequential changes to the “Regulatory Questions” in the existing Examination Question-Bank

The question-bank

If the Radio Regulations are amended to provide for a new additional grade of qualification, the questions in the 70-question “Regulatory” part of the existing question-bank used today for amateur radio examinations must be revised to include coverage for testing knowledge of the new added regulatory provisions. The obvious way to do this is to add more questions to the question-bank.

Increasing the present 70 regulatory questions to 90 or 100 is a possibility, but this in itself requires more study. So the total public-domain question-bank could be increased from 600 to (possibly) 630 questions.

The questions

The new questions added would be to test knowledge of the privileges of the different qualification grades. The “style” of the question expected to be added can be found by viewing the questions used in other countries that have multiple grades of licence. There are many aspects to this, but here are just two typical question examples as illustrations:

```
When a General Class licensee is not permitted to use the entire voice portion of
a particular band, which portion of the voice segment is generally available to
them?
      A. The lower end
      B. The upper end
      C. The lower end on frequencies below 7.3 MHz and the upper end on
      frequencies above 14.150 MHz
      D. The upper end on frequencies below 7.3 MHz and the lower end on
      frequencies above 14.150 MHz

What operating privileges are allowed when you are the control operator at the
station of another amateur who has a higher class license than yours?
```

```
A. Any privileges allowed by the higher class license
B. Only the privileges allowed by your license
C. All the emission privileges of the higher class license, but only the
frequency privileges of your license
D. All the frequency privileges of the higher class license, but only the
emission privileges of your license
```

In some overseas test papers viewed, ***as many as one-third*** of the questions have been about the differences in the privileges between the different licence grades. This can be regarded as a form of "man-made clutter" in the test paper.

With only one licence grade, no such questions appear in the New Zealand question-bank.

9. Recent NZART Conference Remits: "Foundation" Licences

Remit 3, from Manawatu Branch NZART, presented at the 2003 NZART Annual Conference, at Masterton, was the first remit to raise the idea of a "Foundation licence" for New Zealand. It appears in the March/April 2003 issue of "*Break-In*" on page 21. It has become a benchmark when the matter has arisen in discussions at later meetings and conferences:

That NZART commences negotiation immediately with the Ministry of Economic Development, to institute a Foundation Licence scheme modelled on that of the United Kingdom.

Explanation:

The RSGB, in conjunction with the UK Radiocommunications Authority, has instituted a new training and licensing regime known as the Foundation Licence. The scheme has been a spectacular success with 5000 new amateurs enlisted in the first year of operation. On a population basis this would equate to 300 New Zealand amateurs in just one year.

The focus of the programme is on practical operation rather than deep and meaningful electronics, consequently, on graduation, the licensees are limited to 10W and must use commercially made equipment or commercially made kitsets. Licensees can access all bands except 10m.

The candidates are required to attend organised courses held over a weekend(s) and are taught actual operating techniques in addition to elementary electronics. The exam has a 75 percent pass mark.

CW is "assessed", the competency standard being that the message is understandable rather than a letter-perfect transcript. There is no set receiving or sending rate.

The Foundation Licence is an entry level qualification only. On completing the Foundation course, the amateur may progress on to the intermediate and full licences.

What is being introduced here is an education system for training amateurs as distinct from an examination system. Despite the innovations of on-line exam paper access, the focus is still on passing a theoretical technical examination, which, it is assumed, is an indicator of operator competency. Whilst some operators may wistfully reminisce about the "old days" when one had to sit a lengthy exam in longhand, etc, the flaws in this type of assessment have been well documented by educationalists.

The proof of the pudding is that the UK scheme has been a stunning success. It can be a success here too.

Council's comment:

There appears to be no reason to introduce another grade of licence (a compulsory step?) with a separate regulatory regime, a separate call-sign series, with separate examination and separate documentation and licence requirements.

The outcome from the remit at the conference is recorded in the Minutes of the Annual General Meeting, published in the July/August 2003 issue on page 23:

Many members commented on this remit and advised the reasons for their votes. Suggestions included waiting for approximately 1 year to see how many of the 4000 new licence holders in the UK under this scheme, will renew their licence fees.

Fred ZL2AMJ advised the meeting that a novice grade licence had been introduced in 1977 after much discussion with the Ministry. However after two years it was deemed to be ineffective given that examinations held twice a year encouraged as little as 8 candidates at a time. The Post Office who were responsible for maintaining exams at this time, advised that they were not prepared to continue to offer this licence. This was when one exam, two pass levels were introduced.

Novice numbers have never been a success. In the Radio Regulations of 2001, the Ministry abolished the Novice grade licence.

It would appear to be a backward step to introduce another grade of licence when the rest of the world is trying to simplify theirs. In Australia there are 5 grades of licence while we here in New Zealand enjoy only 2. The remit was lost on voices.

Another remit was presented to the **2006** NZART Conference which included promoting the practical-learning attributes from the UK Foundation licence system. It is published in "*Break-In*", March/April 2006 on page 22. In any serious study of the "Foundation Licence", it should not be overlooked. The outcome is explained in the July/August 2006 issue, page 22 – it was lost on voices.

A further remit, in **2008**, was of the type "*Council investigate...the Foundation scheme similar to UK and Australia*". Council comment was: "*This is already under action by Council, as instructed at the last AGM...*".

A voice count produced an inconclusive outcome. A show of hands gave 36 in favour with 11 against. A poll was requested as the show of hands did not determine the actual votes. The result was 979 *For* with 416 *Against*, so was declared ***PASSED*.** Note that this is "*Council investigate...*"

Recommended reading

An article "*The Australian/UK Foundation Licence and the New Zealand Scene: what should we do here?*" by ZL2TW, appeared in "*Break-In*", May/June 2006, page 12.

The author draws on his recent experiences running local classes for the present NZ system. He refers to the higher numbers of amateurs as a proportion of the New Zealand population, the enthusiasm with which the Foundation Licence schemes have been implemented in both the UK and Australia, and, '*if we promoted our straightforward system, aggressively nationally and locally ... who knows what might happen*".

His summary is "*I think first we really need to look at whether or not we are making the most of our present system and what we can do to get the membership at large, the branches and our national organisation (NZART) to get more people through. Perhaps with the right resources and some pre-reading a weekend course is a possibility? If that were successful (and to a limited extent the present system is as our numbers are rising) we would have the best of both worlds, we would be getting new amateurs straight into full privileges.*"

10. The Irish experience

Ireland has a single-grade examination and licence system like New Zealand. The Irish examination is also 60-questions, but their question-bank is not public-domain, and their exams are not "by appointment". Ireland does (as New Zealand does) have the facility available on request for an additional Morse test attachment for any traveller who may need it for operating in some countries. [Ref: 6.]

Ireland is geographically alongside the United Kingdom with its Foundation Licence, indeed, it shares a border with Northern Ireland. So what can we in New Zealand learn from the experience of the Irish?

An exchange of messages in March 2008 with an official of IRTS, the *Irish Radio Transmitting Society* revealed some aspects for further consideration. Here are extracts.

The question:

> "I have a question about the examination/licence system used in Ireland for the amateur radio examination. I am involved with the New Zealand examining system for the amateur radio qualification. We have only one "grade" of licence in NZ. Our examination comprises 60 questions computer-selected from a 600-question question-bank. (More details can be found at: http://www.nzart.org.nz/exam/) There is close similarity with the system that we understand operates in Ireland!
>
> It seems that we both have a "one-grade" licence system. Here in NZ, there are some persons (generally immigrants from the UK) who wish to have the system changed to include a "Foundation Licence". Along with Australia, the UK makes great claims for the success of its Foundation Licence system.
>
> However, some of us who have been involved in the examination for decades, consider that putting a hurdle in the way of the new recruit is not a sensible move, we have had a Novice Licence in years gone by and it was not a success at gaining increasing numbers of new entrants. There are many good reasons for keeping to the status quo!
>
> So my question is: "What is the position and experience in Ireland with regard to a "Foundation Licence"?
>
> You have the UK alongside, with its Foundation Licence, just as we have Australia alongside us with their Foundation Licence. Do you have any pressures for the introduction of a Foundation Licence?
>
> Comments on this matter would be sincerely appreciated and I hope that you can assist."

The answers (from an IRTS official):

> "Here are my (personal) comments - nothing conclusive, I'm afraid.
>
> We have had little or no pressure to lobby the Regulator for a Foundation licence, although - as you rightly surmise - given the fact that our UK neighbour (which includes Northern Ireland) has such a licence, we might have expected some pressure on this point. As you may or may not have picked up, the M3 foundation licensees are not universally welcomed in the UK, and perhaps knowledge of this has dampened any pressure here for a similar change.

One (of many!) differences between the UK and Ireland is that IRTS, the national society in Ireland, is entirely voluntary - it has no paid employees. In contrast, in the UK, the RSGB has employees and is run, in effect, as a commercial organisation. This difference may or may not be relevant to the different approaches to a Foundation Licence.

Up to about 3 years ago, we had an "essay-type" examination, but in 2005 our Regulator (ComReg) allocated responsibility to IRTS to set and mark the theory examinations. These examinations conform to the HAREC syllabus and are in multiple-choice format. Each examination is prepared from an unpublished question pool maintained by IRTS.

The move from essay-type questions to multiple-choice has been generally well received. One aspect of the change that was welcomed was that we moved from having very occasional examinations (sometimes more than a year apart) to regular twice yearly examinations under the new system.

Speaking of licence grades, we actually have two grades of licence here - CEPT Class 1 and CEPT Class 2. To explain this, here is an extract from one of our publications:

*****

Morse Testing

In Ireland, proficiency in Morse Code is no longer a requirement for access to the HF bands. However, experimenters who require a Class 1 CEPT licence (which is required to operate on the HF bands when visiting some countries) must pass a sending and receiving Morse test at 5 w.p.m.

IRTS undertakes this testing process on behalf of ComReg. As with the Radio Theory Examinations, Morse Tests are open to both members and non-members of the Society.

*****

I hope this helps. Let me know if you require anything more."

The CEPT requirements referred to can be found from CEPT web pages [Ref: 9].

11. A short concluding SUMMARY

From the foregoing, it can be seen that introducing a new and additional grade of amateur radio qualification is not a simple task.

It is more than just a quick "let's have one" action.

A new qualification grade must be very well planned.

A LOT of preparation is necessary before any "GO" button for it is pushed.

WHO is going to do all the work?

What are the expected outcomes and the return on the effort involved?

Is it worth it?

Why not keep things simple and put the effort into promoting the present qualification?

Why not maintain the present simple system?

A lot of effort went into removing the unsuccessful Novice grade and it took a long time. Why produce a replacement?

What happens if a new qualification is introduced with adequate volunteers to start it and then they suddenly die off, get tired or begin to lose interest?

Are there adequate numbers of volunteers available to support a training system for new entrants?

Are nation-wide support and training facilities available? (If so, are they busy now?)

If you expect your new qualification to be a hit attraction to new entrants, please specifically explain what makes it so.

When did your Branch or club last run formal or informal classes?

What are the future training plans of your club?

Introducing a new licence grade requires many changes to many official regulatory documents including the Radio Regulations. A large volunteer staff infrastructure is indicated as being required. For the few numbers of potential candidates involved, is it worth the effort and the disruption?

Why not: **"Go with what we've got"? Give it a shot!**

12. References

This page provides convenient quick links to the many sources of information given below.

Each of the URLs listed below was checked in March 2009 and each worked!

New Zealand:

1. *"The New Rules Explained"*, a booklet downloadable from the NZART website at: http://www.nzart.org.nz/exam/files/newrules081206.pdf
2. The New Zealand Radio Regulations can be viewed at: http://www.legislation.govt.nz/ Use "regulations" and then the search-word "radiocommunications". You should be led to: http://www.legislation.govt.nz/regulation/public/2001/0240/latest/DLM71513.html?search=ts_regulation_radiocommunications&sr=1
3. The *"General User Radio Licence for Amateur Radio Operators"* is at: http://www.rsm.govt.nz/cms/licensing/types-of-licence/general-user-licences/amateur-radio-operators
   It can be downloaded for printing from: http://www.rsm.govt.nz/cms/pdf-library/licensing/gurl-amateur.pdf

Australia:

4. http://www.wia.org.au/licences/foundation/about//
   Three grades: Foundation, Standard, Advanced
   WIA Assessors are explained at:
   http://www.wia.org.au/licences/assessor/about/

UK:

5. http://www.rsgb.org/getlicence/
   Three grades: Foundation, Intermediate, Full

Ireland:

6. http://www.irts.ie/downloads/IRTS_Sample_Paper_r3.pdf
   (Similarity with NZ: One licence grade – Radio Experimenter - One 60-question exam. Training CD available. HAREC-based.)

USA:

7. http://www.arrl.org/arrlvec/license-requirements.html
   Three grades: Technician, General, Extra

Canada:

8. http://strategis.ic.gc.ca/epic/site/smt-gst.nsf/en/sf01226e.html
   Two grades: Basic Certificate, Advanced Certificate
   http://strategis.ic.gc.ca/epic/site/smt-gst.nsf/en/sf05478e.html

9. **CEPT and HAREC:** http://www.cept.org/
   HAREC: http://www.erodocdb.dk/Docs/doc98/official/pdf/TR6101.PDF
   http://www.erodocdb.dk/Docs/doc98/official/pdf/TR6102.PDF
   (New Zealand is mentioned in both of these documents.)