

Surveyors Crossing International Boundaries – The Australian and New Zealand Bureau for Assessment of Overseas Qualifications

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SUMMARY

The Boards of Surveyors for each State and Territory of Australia and New Zealand have met at least once every four years since 1892 to determine their common policies with respect to the registration or licensing of cadastral surveyors. Clear policies for the movement of cadastral surveyors across internal borders have been well established for over 100 years. The migration to Australia of surveyors wishing to undertake cadastral surveying has a less formal history.

Prior to the early 1970s the assessment of overseas surveyors was done in an ad hoc fashion, usually state by state with little or no formal criteria for the assessment of their basic academic qualification. Some overseas surveyors were known to have applied to several jurisdictions until they received a favourable reply. Once inside Australia with their academic qualifications adjudged to be at least equivalent to a 4-year degree in Surveying from a university in Australasia, overseas surveyors could be subsequently licensed via completion of a period of gaining local experience and some local cadastral competency assessments and then transfer to another jurisdiction. Internal transfer to the state of their choice under the Boards' policy of mutual recognition of cadastrally licensed surveyors has long been a feature of the Boards of Surveyors in Australian and New Zealand.

From the 1970s until the early 1990s, most of the assessments of the academic qualifications of surveyors coming from overseas were done with more consistency courtesy of academics from the University of Melbourne. As the demands on academic's time became more intense, this task was formalized by the establishment of a Bureau for the Assessment of Overseas Qualifications by the Boards of Surveyors in 1992.

This paper summarises the past 18 years of the reviews of academic qualifications undertaken by the Bureau. The criteria used for acceptance are discussed. Over 350 international surveyors have had their academic qualifications assessed in this period. Many have completed the process of gaining local cadastral experience and the assessment (or examination) of his/her cadastral competency prior to cadastral licensing. Tables indicating the annual fluctuations in applications and success rates from each continental area are presented.

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1. INTRODUCTION

The standing committee of the Boards of Surveyors for each State and Territory of Australia and New Zealand is known as the Committee of the Reciprocating Boards of Surveyors for Australia and New Zealand, or CRSBANZ. It has met at least once every four years since 1892 to determine common policies with respect to the registration or licensing of cadastral surveyors. Clear policies for the movement of cadastral surveyors across internal borders have been well established for over 100 years by CRSBANZ, with the written examinations for surveyors to obtain their cadastral licence being administered alternatively by different Boards for many years. The migration to Australia and New Zealand of surveyors wishing to undertake cadastral surveying has a less formal history.

Prior to the early 1970s the assessment of the academic qualifications of overseas surveyors was done in an ad hoc fashion, usually state by state with little or no formal criteria. Some overseas surveyors were known to have applied to each jurisdiction until they received a favourable reply. Once they had gained local practical cadastral experience and passed some examinations, they could easily transfer to a state which may have initially rejected their application. This had the effect that the standard for acceptance varied, it caused some animosity between Boards, and, in modern political terms, ‘the process was not transparent’.

The first attempt to have a uniform set of criteria for the acceptance of cadastral surveyors who had been educated and trained offshore from Australia and New Zealand came in the late 1960s. At that time, the articulated pupil system as a means of becoming a professional surveyor was drawing to a close. Until then, a pupil surveyor was legally indentured to a master surveyor under a system of articles. The master surveyor was to provide training and the pupil was left very much on their own to study for the examinations set by CRSBANZ. By 1970, all universities were moving towards 4-year Bachelor of Surveying degree programs, with the last of the 3-year degree programs being phased out. The requirement of a 4-year degree, or equivalent, with a mix of surveying science and cadastral content, became the criteria for acceptance of overseas applicants.

From the 1970s until the early 1990s, most of the academic qualifications of surveyors coming from overseas were assessed courtesy of academics from Melbourne. As the demands on academic’s time became more intense, this task was formalized by the establishment of the Bureau for the Assessment of Overseas Qualifications (BAOQ) in 1992. The Institution of Surveyors Australia took part in a federally funded project to identify the competencies expected of surveyors in the early 1990s (see section 3). The report of that project forms the basis of all competency assessments for surveyors.

This paper summarises the 350 international surveyors who have had their qualifications assessed by BAOQ in the past 18 years. For 12 years Mr. Colin Fuller undertook the role of Chairperson. Since 2004, that position has been occupied by the author, Emeritus Professor John Fryer. Tables indicating the annual fluctuations in applications and success rates from each continental area are presented.

2. WHY HAVE A BUREAU?

Reasons why the BAOQ should operate are manifold. A major reason for its maintenance is that CRSBANZ can be seen by various levels of government as employing a transparent, consistent and fair method of assessment. Although the BAOQ reports to CRSBANZ, and offers a service to the Boards, it is demonstrably at arms length to those Boards.

The annual report of BAOQ is transmitted to all Boards, thus all Boards have a consistent set of knowledge about who has applied from overseas, their listed qualifications, and the result of that application. Individual assessments are sent back to the Board which forwarded the overseas application. These assessment letters often include advice to forward to applicants as to why they were unsuccessful and what extra qualifications they should gain to reach an acceptable standard. Occasionally all Boards are alerted when exceptional circumstances occur, such as when persons have fraudulently made claim to credentials they do not possess.

In the past two decades there have been two noticeable trends with the numbers of surveyors in Australia. Firstly the number of students choosing a surveying degree program has, in general, declined (Fryer, 1989a), and secondly, the number of surveying graduates presenting themselves for cadastral licensing has also reduced (Fryer, 1989b, Fryer, 1991 and ISA, 1996, 5). This is not the situation in New Zealand where the university intake and numbers of licensed surveyors have remained 'healthy'.

These trends of decreasing numbers of students and graduates in surveying in Australia may be attributed to the increasing range of choices for careers which both school-leavers and graduates face. These matters are a real concern to the Boards of Surveyors and several analyses of the situation have been prepared (Fryer, 1990, 1992 and 1997). One scenario in the event of insufficient local cadastral surveyors is to encourage such surveyors from overseas. In this scenario the need for a uniform and consistent approach to the assessment of overseas academic qualifications is essential. The situation of an overly short supply of cadastral surveyors has not been reached yet, but there is no doubt that the age profile in Australia shows that the average age of a cadastral surveyor is over 50 years and increasing (Kelly and Fryer, 1995, and Fryer and Hill, 1999).

3. NATIONAL COMPETENCY STANDARDS FOR PROFESSIONAL SURVEYORS

During the early 1990s, most professions in Australia, such as engineers, accountants, dietitians, nurses, etc. established competency documents so that interstate transfers of professionals could take place. This was under the general umbrella of the Federal

Government's 'Competition Policy' (in effect, it was a policy to allow 'free' competition amongst similarly qualified professionals). The process for surveyors was easier than for other professions as interstate transfers of cadastral surveyors had been operating for approximately a century under the auspices of CRSBANZ. One of the aims of producing the competency standards was to assist the BAOQ, established formally by CRSBANZ in 1992, to assess overseas surveyors wishing to have their academic qualifications recognized as equivalent to Australasian ones.

In July 1996, the Institution of Surveyors Australia produced a 96-page, A-4 sized, brown-covered book entitled "*National Competency Standards for Professional Surveyors*", (ISA, 1996). These competency standards were produced with a substantial contribution of funds from a federal government agency, the National Office for Overseas Skills Recognition. The Competency Standards, known colloquially as the '*Brown Book*' in Australasia, is a complex document. In this short paper, only a brief outline of what is meant by competency, how it may be assessed and how it can provide pathways to guide qualified persons through the profession is possible. More complex is how the competencies, which are generic in nature (see list below), relate to course content in Surveying/Geomatics degrees.

3.1 Core Competencies

The 11 **Core Competencies** are listed as:

1. Professional Practice;
2. The Collection of Data and Information;
3. The Management of Data and Information;
4. The Presentation of Information;
5. Business, Management and supporting Quality Assurance Programs;
6. Communications;
7. Spatial Reference Systems and Core Data Bases;
8. Land Administration and Property Development;
9. Controlling, Measuring and Locating Developments;
10. Research, Development and Commercialisation;
11. Education and Training.

Each Core Competency is then subdivided into up to eight elements, which are expanded to explain that competency. Each element is described as being "an observable activity which can be assessed" (ISA, 1996, 28). Some simple examples would be "3.3 Convert data from one system or medium to another", or "5.3 Manage human resources", or "6.4 Comprehend, report on and discuss relevant legal matters", (*ibid*, 28 and 29) and so on. Each of these elements is then itself further expanded into up to ten 'dot points' to fully explain what is intended.

The Competency Standards suggest that a graduate from a 4-year Surveying degree should be able to demonstrate competency in "Core Competencies 1, 2, 3, 4 and 6, and in at least one of

units 7 to 10”. Note that Core Competency 11 refers to graduates with some post-graduate experience who will follow an academic or teaching career.

In addition a working graduate will have “an understanding of Core Competency 5 and a commitment to developing competency in this area” (*ibid*, 31). As cadastral matters are covered in Competency No.8, it can be seen that a new graduate will not have all the relevant skills and competencies to be a cadastral surveyor without gaining further knowledge and experience. All jurisdictions in CRSBANZ require two years of practical experience with at least 12 months in cadastral work, plus either face-to-face assessments or formal examinations of the surveyor’s understanding of cadastrally related topics such as urban and rural surveys, town planning and urban engineering. These topic areas do vary slightly across jurisdictions but always fundamentally involve the local land titling processes.

Of course, the question arises “*How do the Competencies relate to the course (i.e. subject) content of a 4-year degree program?*” The answer to that question is not via a simple one-to-one equation or matrix. It involves an understanding of the difference between assessing whether simple answers are right or wrong on an examination paper and the more complex process of observing the “balance of knowledge, technical skills and professional judgements needed by practicing surveyors”. In short, it is difficult to quantify, but it demonstrates why Boards of Surveyors should use two or more examiners for viva-voce assessments (*ibid*, Appendix 2, 89 et.seq.).

Some of the competencies are directly related to some university courses. For examples, Competency 7 is related to Geodesy, Competency 8 to Land Law, Cadastral Surveying and Town Planning, and Competency 9 deals with Engineering considerations. If one examines the course content of other university subjects, it is possible when using the full description of all the elements of the Core Competencies to assess an overseas degree, but it is time consuming and explains the reasoning behind CRSBANZ entrusting its BAOQ to a retired academic.

It must be stressed that assessing a foreign academic qualification does require a detailed knowledge of the university and technical education systems in Australasia and various other continents. Very often it has been essential to call upon overseas colleagues to glean details of some degree programs, not to mention the occasional need for Chinese, Russian, Arabic, etc. translations of some documents.

So, in summary to here, the Boards of Surveyors in Australia and New Zealand were extremely fortunate that the Institution of Surveyors undertook a rigorous examination of competencies during the early 1990s. The Competency Standards provide the framework for competency assessment of overseas trained and educated surveyors. It was an expensive (approximately AUD\$250,000 with a large amount of volunteer time in the mid-1990s), yet necessary, project and one can only wonder when it will be re-visited as the profession evolves. Cynics may say that it is useful that aspects of cadastral surveying evolve slowly!

4. FEE STRUCTURE

The fee structure for the assessment of overseas qualifications was last determined at the May 2004 meeting of CRSBANZ in Victoria. That fee is \$200 per annum per jurisdiction per annum plus \$200 per assessment from the individual who sends his fee and request via a Board of Surveyors. An Australian 10% Goods and Services Tax of \$20 is to be added to these figures in the case of Australian Boards. Some Australian Boards add a small administration fee to cover costs in receiving and distributing requests, other Boards do not. The figure of \$220 is comparable with the figures used by the Institute of Engineers, Australia and the Royal Institute of Chartered Surveyors UK, where the assessment fees can vary from \$150 to \$350 depending on country of origin and other criteria. Assessments usually take between one half-day to three full days to process, including an e-mailed and hard copy of BAOQ's response to the appropriate Board.

5. RESULTS TO DATE

Towards the end of 2009, **356** formal applications from surveyors with overseas qualifications had been made in the last 18 years. The average 'turn-around' time from the enquiry reaching BAOQ has been less than two weeks, often less than one week with electronic scanning and transmission of documents and the Internet aiding the process. This compares very favourably with a time frame of months in the 1970s and 80s. Of course, all correspondence was then by conventional mail and the obtaining of details about a specific overseas university could be very time-consuming.

In addition, many dozens of informal queries have been handled from Registrars/Secretaries of Boards, private companies seeking to employ overseas surveyors and from individual surveyors. Informal requests have not attracted a fee.

The number of applications for assessment per annum has varied widely from 3 to 49 (see Figure 1). The success rate per year has varied from 25% to 100%, with an overall approval rate of **60%**, representing 213 successful applicants out of 356. As a guide to where the applications come from, the **55** individual countries have been grouped into the continents of Europe, Africa, Asia, North America, South America and the Pacific Ocean region (see Table 1). The overall success rates from each region with comparable numbers of applications have been remarkably similar.

The full listing of individual countries is shown in the large Table 2, shown at the conclusion of this paper. The largest number of applications (51) has come from South Africa, closely followed by England (37). The greatest success rates have come from central Europe where the highly rated 5-year university degree systems produce well qualified applicants. England probably has the worst rate of approval, as many applicants from there have only possessed the equivalent of 2-year Technical College Diplomas and have not understood the clear difference between a metes and bounds Torrens Title system of cadastral boundary definition

(or its derivatives such as exist in many countries where the old British Empire once reigned), and the English system with its Common Law heritage.

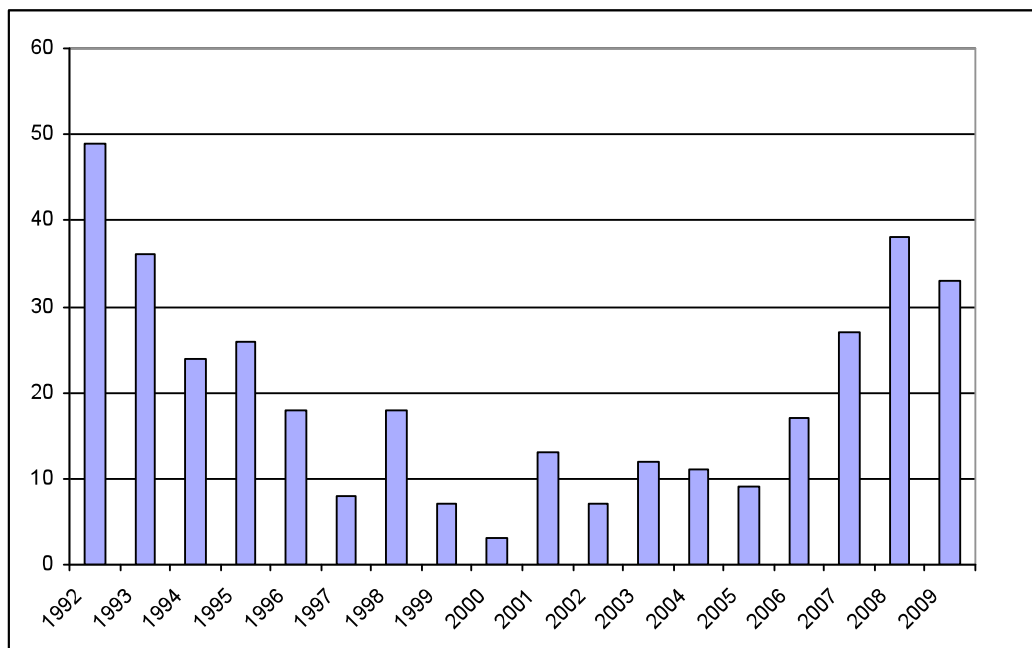


Figure 1. Number of applications per year

Table 1. Success rates per region

Region	Applications	Successful	Success Percentage
Europe	143	88	62%
South Africa	85	48	56%
Asia	80	44	55%
Pacific Region	24	15	62%
North America	18	14	78%
South America	6	4	67%
TOTALS	356	213	60%

CONCLUSIONS

Most geodesists would not agree that the world is becoming smaller, but certainly it is becoming faster and easier to traverse. Surveyors of all ages are wishing to travel and work in regions beyond where they gained their formal academic qualifications.

The recognition of an overseas's surveyor's academic qualifications upon coming to Australia and New Zealand is a task which must be carried out transparently and sensitively by those who are best qualified to judge, that is, by other surveyors. The Boards of Surveyors in this region have acknowledged and accepted their role in this task and formally established a

Bureau for the Assessment of Overseas Qualifications. It has been functioning for almost 20 years and has aided in the assessment of over 350 international applications.

Some of the lessons learnt in this process include the difficulties in determining the level or status of a particular University in a country. For example, in some countries there are excellent 4-year Surveying degrees and yet in the same country there are often other universities (perhaps privately-funded) which offer so-called Master-level degrees which really only have the technical content and status of a 2-year Australian Technical College diploma. The annual report of Board of Surveyors in these countries may provide details of the success rates at their licensing examinations of surveyors with degrees from various universities. These reports can provide a valuable guide to the likely equivalence of a particular degree program, although each case must be assessed and treated individually.

Another difficulty can be assessing the standard at a particular epoch of university degrees. For example, in some countries which have undergone political turmoil and the universities have been closed for periods of time, the standard of graduates has been observed to vary widely. Some degrees have been of a low academic standard, but caution should be again exercised here, as dedicated academic staff with limited resources in some very poor developing countries do continue to produce surveyors with an excellent understanding of surveying science and the cadastre. Case-by-case assessment is essential. Often an examination of the Curriculum Vitae of an applicant indicating the type of tasks carried out after graduation, the levels of responsibility attained, professional society memberships and the strength of their references can aid this assessment.

Success at having a degree recognised by the BAOQ does not equate to a licence to undertake cadastral surveying in Australia and New Zealand. It provides the overseas surveyor with graduate status, so they can then commence a period of 12 to 24 months of gaining local cadastral experience and prepare a portfolio of surveys to prove their competence at, usually, a face-to-face meeting with members of a Board of Surveyors. In addition, some jurisdictions require a more formal examination in cadastral law, as the end result in Australasia upon gaining a licence to practise cadastral surveying is always the same: the cadastral surveyor is acting as an agent for the government (the titling authority) to maintain the integrity of the cadastre and the government needs assurance that such tasks will be carried out in a professional and responsible manner.

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Table 2. Applications per country

Country	No.	Country	No.
South Africa	51	Ghana	3
England	37	Hungary	3
Germany	21	Lebanon	3
Philippines	17	Ireland	3
Zimbabwe	16	Jordan	2
Hong Kong	14	New Zealand	2
Poland	12	Chile	2
Sri Lanka	11	Romania	2
Fiji	11	Turkey	2
Bulgaria	9	Belgium	1
Iraq	9	Denmark	1
Papua New Guinea	9	France	1
China	9	Greece	1
Canada	9	Jamaica	1
USA	8	Japan	1
Italy	7	Macedonia	1
Russia	7	Nepal	1
Egypt	7	Netherlands	1
Yugoslavia	5	Nigeria	1
India	5	Pakistan	1
Croatia	5	Peru	1
Iran	5	Portugal	1
Bangladesh	4	Slovakia	1
Czechoslovakia	4	Sudan	1

Israel	4	Syria	1
Mauritius	4	Ukraine	1
Scotland	4	Vietnam	1
Argentina	3	(Total)	(356)

BIOGRAPHICAL NOTES

John Fryer is an Emeritus Professor from the University of Newcastle, NSW, Australia, previously having held positions as Professor of Photogrammetry, and Head of Engineering. He has published over 200 scientific papers, conference proceedings, chapters in books and co-authored text-books on Surveying and Photogrammetry. He is a Fellow of the Surveying and Spatial Sciences Institute of Australia and member of several learned societies. John has had over 25 years of involvement with the Board of Surveyors of New South Wales as a member, examiner and advisor since 1982. He retired at the end of 2004 and has been active in consultancy work since that time. Most consultancies have involved forensic investigations for the police force where imagery and measurement problems were involved.

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