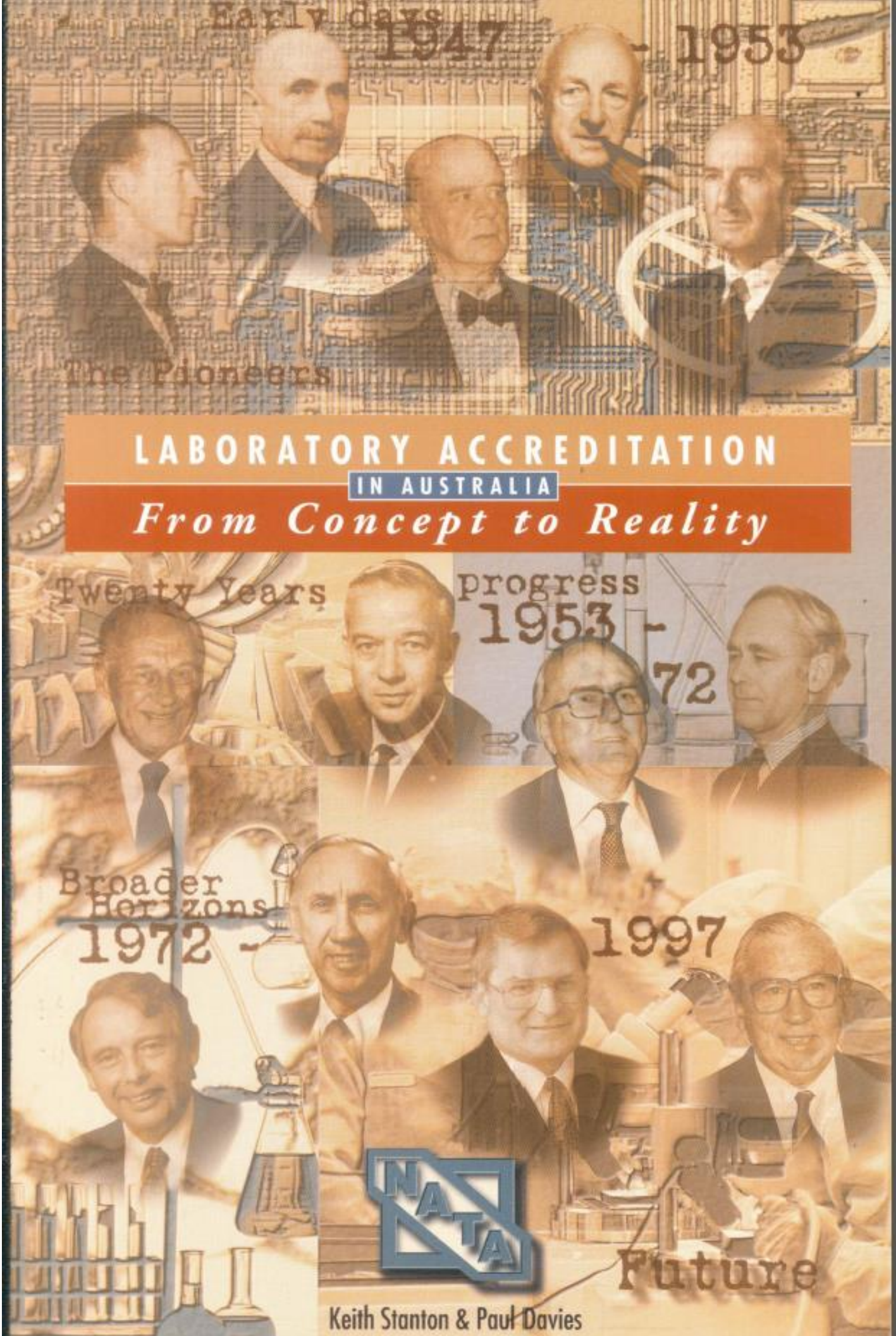

LABORATORY ACCREDITATION IN AUSTRALIA

From Concept to Reality

Keith Stanton & Paul Davies

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NATA

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Introduction

Australia can take a great deal of pride in the fact that, at least 25 years ahead of any other country, it established a comprehensive national system to determine the competence of organisations undertaking testing and calibration. With no other schemes to copy or learn from, Australia's laboratory accreditation system had to be developed virtually from first principles, often in the face of opposition from sectors that did not foresee its ultimate worth.

What is remarkable is how well the approach still works today, over 50 years later. So well, in fact, that it is the benchmark for other laboratory accreditation systems around the world. What greater tribute can be paid to the thousands of people who have played some part, great and small, in NATA's establishment, growth and development. Even today, almost 3,000 individuals, mostly volunteers, devote their time and efforts to ensure that the system remains viable and effective as a national quality assurance tool.

The contributions of some of the key players in NATA's history are chronicled in the following pages. Their involvement is documented by Keith Stanton who, as one of NATA's first and longest-serving staff members, participated in many of the crucial events that marked NATA's growth. This book follows on from Keith's earlier book Laboratory Accreditation - Origins of a Concept, which focused on the individuals and events that led to the foundation of the Association.

One thing that echoes clearly throughout both these publications is that history is as much about people as events. We can only be grateful that so many of these people shared the foresight, vision and determination to see a concept become reality.

Mike Gledden, NATA Chairman

Chapter 1: Early Days: 1947 to 1953

The world's first national laboratory accreditation* organisation, the National Association of Testing Authorities (NATA), came into being when NATA Council held its first meeting at CSIRO Head Office, East Melbourne, Victoria on 5 to 6 February 1947.

The NATA constitution of 1946 stated that NATA's prime objective was:
"To organise a national service which will provide testing facilities to meet the needs of Government, industry and commerce and thus assist in maintaining the products of industry at a high standard".

However, the constitution did not specify the infrastructure to achieve this objective. It was unclear at this time whether NATA would cover the calibration of instruments and testing equipment or would be restricted to testing of materials and products. It was also undecided whether NATA should accredit private sector laboratories or would be restricted to government and university laboratories.

ESTABLISHING NATA's STRUCTURE

During the years 1947 and 1948, considerable effort was devoted to the task of establishing the basic structure and procedures for the new Association. The planning and direction for this activity was provided by NATA's Council, whose members included:

Commonwealth Government Representatives

Mr G Lightfoot (*Council for Scientific and Industrial Research*), Mr H P Breen (*Department of Post-War Reconstruction*), Dr C E Eddy (*Department of Health*).

State Government Representatives

Mr P C Pecover (*NSW*), Professor R W Hawkin (*QLD*), Professor Sir Kerr Grant (*SA*), Mr A H Benjamin (*TAS*), Mr W R Jewell (*VIC*), Professor A D Ross (*WA*).

* The founders of NATA used the term "laboratory registration" for the concept of recognition of the competence of laboratories. In the 1970s, a clear international preference for the term "laboratory accreditation" emerged. Subsequently, NATA amended its Rules to incorporate the term "laboratory accreditation". Both terms are synonymous as far as the reader is concerned.

The Associated Chambers of Manufactures Representative

Mr M T W Eady.

Standards Association of Australia Representative

Mr W R Hebblewhite.

State Committees (appointed by State Governments)

Mr R A Holloway (*NSW*), Mr H P Singleton (*QLD*), Mr R M Wigg (*SA*), Professor E E Kurth (*TAS*), Mr E Bate (*VIC*), Mr D B Sugden (*WA*).

The February 1947 Council meeting covered many aspects of establishment of the new organisation, but Councillors recognised the need for a wider range of viewpoints. It decided therefore to co-opt Professor Sir John Madsen and Mr A E Dawkins, Chief Superintendent, Munitions Supply Laboratories (to provide input from National Standards Laboratory and the Approved War-Time Test House Scheme).

In addition, Mr Lightfoot was appointed as Chairman and Sir John Madsen as Vice-Chairman. An Executive Committee (consisting of Mr Lightfoot, Sir John Madsen, Mr Eady, Mr Hebblewhite and Mr Dawkins) was established to conduct its affairs between Council meetings. The Council meeting also decided the membership of its State Committees.

To seek advice on the scope of the new Association and the assessment of laboratories, an ad-hoc committee was to be drawn from the Munitions Supply Laboratories, National Standards Laboratory, Standards Association of Australia, Commonwealth Department of Health, the Australian Chemical Institute, the Associated Chambers of Manufactures and CSIR Division of Food Preservation.

This crucial meeting was followed by State Committee meetings which spread the news of the formation of NATA and produced some useful ideas on its structure and procedures. But the most important meeting was held on 20 March 1947 to consider the scope of the new Association and the assessment of laboratories. For reasons not recorded, Mr Lightfoot sent invitations to Munitions Supply Laboratories and National Standards Laboratory, but did not follow the Council decision to invite the Standards Association of Australia, the Commonwealth Department of Health, the Australian Chemical Institute, the Associated Chambers of Manufactures and the CSIR Division of Food Preservation. This meeting made a number of recommendations to NATA Council, including:

- That accreditation should initially be restricted to government, quasigovernment and university laboratories.

- That automatic accreditation should not be granted to laboratories approved under the earlier Approved War-Time Test House Scheme, because NATA would not be able to provide the close level of supervision applied under that scheme.
- That initially, accreditation should cover the following fields - Chemical Analysis, Mechanical Testing, Metrology, Electrical Testing, Pyrometry and Photometry.
- That NATA should prescribe the type or types of test covered by each accreditation.
- That each applicant laboratory should be assessed by representatives from a panel of experts and that these assessments should cover qualifications and experience of staff, the keeping of records and the calibration of laboratory equipment.
- That supervision of accredited laboratories include recalibration of equipment, visits by NATA representatives and possibly the use of check testing.
- That a uniform approach to the NATA endorsement of test reports should be considered.

The New South Wales and Victorian State Committees had different views on some of these issues. Both Committees were of the view that accreditation should be available to private sector laboratories. The New South Wales State Committee proposed a Registration Advisory Committee for each field of testing supported by specialist panels of assessors.

In May 1947, the Defence Division of the Department of Treasury requested representation of the inspection branches of the Departments of Navy, Army and Air on NATA Council. At that time, defence contracts were of major importance to Australian manufacturers.

During this formative period, NATA had no staff and no office. Its affairs were managed by CSIR with a CSIR Assistant Secretary, Mr F G Nicholls, responsible for its administration. Its modest expenses were paid by the Commonwealth Government.

NATA Council held its second meeting on 17 June 1947. At that meeting the Council decided:

- That the fields of testing would be - Chemical Analysis, Mechanical Testing, Metrology, Electrical Testing, Pyrometry, Photometry, Industrial Radiography, Testing of Biological Products. (It discussed but did not decide whether to include calibration of instruments and testing equipment).

- That a national Registration Advisory Committee be established for each field of testing to prescribe the criteria for accreditation and to investigate compliance of laboratories with the criteria.
- That each Registration Advisory Committee be authorised to appoint panels of assessors to investigate compliance of laboratories with the criteria.
- That the State Committees should invite appropriate laboratories to apply for accreditation. (The Council discussed inclusion of private sector laboratories but did not reach a decision).
- That a chief executive officer be appointed with the title of Registrar and that the Association's Head Office be located in Sydney.
- That a professional officer be appointed to service the Victorian State Committee.
- That the constitution be amended to provide for one person representing the defence inspection authorities (Navy, Army, Air) on NATA Council.

The Executive Committee (appointed by NATA Council in February 1947) held its first meeting on 11 September 1947. It appointed the following Registration Advisory Committees:

Chemical Analysis

W R Jewell, Convenor (*State Laboratories, VIC*), G A Ampt (*University of Melbourne*), V G Anderson (*Consulting Chemist*), E A Goode (*Munitions Supply Laboratories*), C Lambert (*NSW Railways*), R G O'Brien (*Senior Assistant Government Analyst, NSW*), Dr J Vernon (*Colonial Sugar Refining Company*).

Mechanical Testing

R A Holloway, Convenor (*NSW Railways*), G L Brown (*Munitions Supply Laboratories*), D Clark (*Commonwealth Steel Co Ltd*), N A Esserman (*National Standards Laboratory*), P C Pecover (*Department of Public Works, NSW*), H Vogan (*University of Sydney*).

Metrology

N A Esserman, Convenor (*National Standards Laboratory*), E L Sayee (*Munitions Supply Laboratories*).

Electrical Testing

Dr D M Myers, Convenor (*National Standards Laboratory*), Professor A Boyd (*University of Queensland*), F H Cureton (*Sydney County Council*), H J Frost (*Munitions Supply Laboratories*), W W Miller (*State Electricity Commission, Victoria*), S H Witt (*PMG's Department*), H B Wood (*Standard Telephones and Cables*).

Pyrometry

A F A Harper, Convenor (National Standards Laboratory), R G Ackland (*Munitions Supply Laboratories*), Professor Sir Kerr Grant (*University, of Adelaide*).

Photometry

R G Giovanelli, Convenor (*National Standards Laboratory*), F Banfield (*Australian Lamp Manufacturers Ltd*), H S Martin (*State Electricity Commission, Victoria*), J J McNeil (*Munitions Supply Laboratories*).

Industrial Radiography

I J Ferris, Convenor (*Munitions Supply Laboratories*), Dr C E Eddy (*Commonwealth X-Ray and Radium Laboratory*).

Testing of Biological Products

Dr F G Morgan, Convenor (*Commonwealth Serum Laboratories*), Dr A Bolliger (University of Sydney), Dr F S Hansman (*British Medical Association*), Dr C P Magee (*Department of Agriculture, NSW*).

In October 1947, the Executive Committee appointed a civil engineer, Mr R V F Eldridge, as the first NATA Registrar and an electrical engineer, Mr K N Stanton, as Secretary to the Victorian State Committee. They commenced duty in November 1947 from an office at CSIR Head Office, East Melbourne.

Mr M T W Eady, the representative of the Associated Chambers of Manufactures (ACMA) on NATA Council, died suddenly in late 1947. He was a strong supporter of laboratory accreditation with a keen appreciation of its potential benefits for the private sector. ACMA appointed Mr A D J Forster, Director, H V McKay Massey Harris Pty Ltd to fill the vacancy. Messrs Eady and Forster were as different as chalk and cheese. Mr Forster referred to the National Standards Laboratory as a "white elephant" and to NATA as "a sledgehammer with the functions of a nut cracker".

Early in 1948, the NATA Head Office moved from East Melbourne to the National Standards Laboratory at the University of Sydney. In March 1948, Lt. Col. J H Fraser was appointed State Secretary, NSW and Mr A W Miles was appointed Technical Secretary. Mr Miles resigned in June 1948 and the position of Technical Secretary lapsed.

The new Registration Advisory Committees held their first meetings late in 1947 and early in 1948. The early initiatives came from the Chemical Analysis RAC and the Pyrometry RAC. They had outstanding leaders in W R Jewell (Chemical Analysis) and A F A Harper (Pyrometry). Also the Chemical Analysis RAC included E A Goode, the Manager of the Approved War-Time Test House Scheme. These committees were the leaders in development of specific criteria for accreditation and in the preparation of detailed lists of classes of test.

In April 1948, Mr Lightfoot declined re-nomination as NATA Chairman but accepted the Vice-Chairmanship. Sir John Madsen was elected Chairman. NATA Council decided that test reports issued in the name of NATA should bear an emblem, designed by the Registrar, and this endorsement:

This laboratory is registered by the National Association of Testing Authorities, Australia for the classes of test herein reported.

Also NATA Council tacitly agreed that its accreditation scheme should be open to private sector laboratories. On the issue of accredited laboratories undertaking tests for outside clients, NATA Council decided that there was no obligation to do so, but an expectation that testing authorities would act in the national interest.

In December 1948, NATA Council adopted an amended constitution and regulations. It varied the fields of testing to:

- Metrology
- Mechanical Testing
- Electrical Testing
- Photometry
- Temperature Measurement
- Industrial Radiography
- Chemical Testing
- Biological Products Testing

The most important change was from Chemical Analysis to Chemical Testing. The new field covered all the tests normally performed in chemical laboratories, including the physical tests on such materials as paints and petroleum products. The regulations specified the criteria for accreditation as follows:

- The person in direct charge of the laboratory and all officers having technical supervisory responsibilities in the conduct of the laboratory are properly qualified and have had adequate experience in the testing work concerned.
- The other members of the laboratory staff are suitably qualified for the work on which they are engaged, and the proportion of partially trained members is not more than that which is appropriate for such a laboratory.
- The laboratory practice, including the supervision of staff, the checking of calculations and results, and the keeping of records is satisfactory.

- The laboratory equipment and facilities are adequate for the performance of the testing work concerned, appropriately housed and properly maintained.
- The measuring and testing equipment maintained by the laboratory, together with any appropriate auxiliary equipment, had, at a sufficiently recent date, been calibrated in terms of the relevant Commonwealth Standards and found satisfactory.

In retrospect, these criteria had a serious omission. They did not mention adequacy of the end product - the test report.

The regulations also set out the functions of the State Committees, including preparation of lists of laboratories, establishment of contacts with laboratories and with industry and commerce, promotion of recognition of accredited laboratories and endorsed test reports and provision of advice to State Governments on gaps in the availability of public testing facilities.

Thus, by the end of 1948, NATA had its structure in place and had defined its general criteria for the accreditation of laboratories.

DIFFICULT TIMES

At the end of 1948, NATA Council decided that there should be a "trial run" to check its criteria and procedures. It invited the Department of Supply and Development to apply for accreditation of Defence Research Laboratories (DRL - formerly Munitions Supply Laboratories), Maribyrnong, Victoria. In January 1949, DRL applied to NATA for accreditation in Metrology, Mechanical Testing, Electrical Testing, Temperature Measurement, Industrial Radiography, Chemical Testing and Biological Products Testing. The laboratories were assessed and the seven accreditations were granted. However, these assessments were of limited value because of the high standard of the laboratories.

In May 1949, Mr F G Nicholls replaced Mr Lightfoot as the CSIRO (formerly CSIR) representative on NATA Council. There were also changes to the NATA administration. Its Head Office moved to a CSIRO office at Potts Point, Sydney in April 1949. Lt. Col. Fraser resigned as NSW State Secretary in May 1949 and a chemist, Mr H F Monaghan, was appointed Deputy Registrar and NSW State Secretary in September 1949. Relations between Mr Nicholls and the Registrar, Mr Eldridge, were strained and Mr Eldridge submitted his resignation in November 1949. In November 1950, Frank Monaghan was appointed as Registrar and Keith Stanton as Deputy Registrar. (They continued as the Association's senior executives until Frank's retirement in 1979).

The years 1949 and 1950 were critical years for the new Association. It had a far from representative Council, with three members appointed by the Commonwealth Government, 12 members appointed by State Governments, one

Two of the principal players in the early history of the Association, Frank Nicholls (left) and Gerald Lightfoot (centre) meet with Ian Clunies-Ross

member appointed by the Standards Association of Australia, one member appointed by the Associated Chambers of Manufactures (ACMA) and five co-opted members from government authorities and the universities, There were no representatives from the defence services or the relevant professional institutes and only one representative from the private sector.

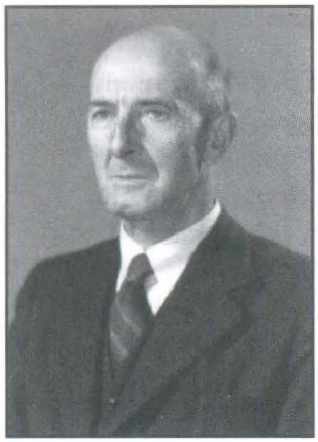
After the accreditation of DRL, NATA Council decided to invite applications for accreditation through its State Committees and by public advertisements. This action was taken in September 1949 despite an indication from the ACMA that it was not happy with the new Association. ACMA was of the view that NATA was controlled by the government and that it was much too elaborate for its task. By March 1950, NATA had received 36 applications in the following areas:

Government laboratories: 10 applications

University lab oratories: 4 applications

Private sector laboratories: 22 applications

Clearly, the concerns of ACMA were not shared by everyone in the private sector. Cement manufacturers had been working for years to resolve differences in test results between their laboratories and government laboratories, and saw laboratory accreditation as the logical solution. The private sector also included some enthusiasts for the concept, including Mr J G Hall (British Australian Lead Manufacturers Pty Ltd) and Mr J G Ritchie (McPhersons Limited).



A E (Earnest) Dawkins, former Chief Superintendant of the Defence Research Laboratories, was appointed Chairman of NATA in March 1950.

In March 1950, Sir John Madsen declined re-appointment as NATA Chairman and Mr A E Dawkins, Chief Superintendent, Defence Research Laboratories, was appointed Chairman. Three professional engineers (Lightfoot, Madsen and Hebblewhite) had developed the concept of laboratory accreditation. Now only Hebblewhite remained in a key position. A new era had begun.

The new NATA Chairman, A E Dawkins, was a quiet dour man but a staunch supporter of laboratory accreditation and he worked very hard to put NATA on a sound footing. As Chief Superintendent of Defence Research Laboratories and a professional chemist, he had the respect and the goodwill of ACMA, The Royal Australian Chemical Institute (RACI) and the defence services.

In 1950, the members of NATA Council had diverse views on the future of NATA, with many councillors less than optimistic. But the Council had a core of "true believers" including A E Dawkins, W R Jewell, W R Hebblewhite, F G Nicholls and Professor A D Ross. Their beliefs were to be sorely tested. NATA Council faced three major problems:

- The hostility of the ACMA.
- The concerns of the RACI with respect to the impact of laboratory accreditation on its members.
- The lack of adequate representation of the defence inspection authorities on NATA Council.

Meetings between representatives of NATA and ACMA late in 1949 were not productive and, in 1950, the ACMA withdrew its representative from NATA Council. The ACMA was concerned that it had not been formally represented at the conferences and discussions leading to the formation of NATA. It considered that NATA's structure was overly elaborate for its role and resented the dominance of NATA Council by government appointees. The ACMA also took the view that co-ordination of calibration services was more urgent than co-ordination of testing services.

Whilst the RACI raised some concerns about the concept of laboratory accreditation, its prime concern was lack of representation on the governing body of an Association which impacted on the practice of the profession of chemistry. The defence departments sought adequate representation on NATA Council because of the role of laboratory accreditation in a defence emergency. These problems were resolved in 1953 when the NATA constitution was amended so that NATA Council included:

- Three ACMA representatives.
- One RACI representative.
- One representative of the Institute of Physics, Australian Branch.
- One representative of the Institution of Engineers, Australia.
- Three representatives of the defence inspection authorities (Navy, Army and Air)*.

The ACMA appointed three distinguished representatives, Mr J P Tivey (later Sir John Tivey), Mr P Van Amstel and Mr J G Ritchie. (Sir John Tivey was to serve with distinction as Vice-Chairman of NATA, and Mr Ritchie as NATA Chairman from 1961 to 1979.)

In 1951, NATA established its own offices in Sydney and Melbourne. The Head Office moved to Kembla Building, Margaret Street, Sydney and the Melbourne Office to Kelvin Hall, Collins Place, Melbourne. But the Association continued to operate on a Commonwealth grant and its close links with CSIRO were maintained. From 1951 to 1953, NATA made quiet but steady progress in the accreditation of laboratories. In September 1951, it published its first *Register of Laboratories* (the forerunner of NATA's *Annual Directory* of accredited laboratories). The *Register included* 42 accredited laboratories together with their terms of accreditation and approved signatories. Thanks mainly to the leadership of W R Jewell, 21 of the 42 accreditations were in the field of Chemical Testing.

By 30 June 1953, NATA had received 192 applications and 96 accreditations had been granted. The accreditation procedures were working reasonably well but there were some significant delays related to the calibration of mechanical testing equipment. Also it was becoming clear that a further review of the fields of testing was required to meet the needs of testing authorities. The fields of testing were thus amended to:

- Metrology
- Mechanical Testing
- Electrical Testing
- Photometry
- Heat and Temperature Measurement
- Industrial Radiography and Crack Detection
- Chemical Testing
- Biological Testing

NATA Council also emphasised that its accreditation scheme included calibration as well as testing of materials and products.

At this time, there was little knowledge outside Australia of the concept of laboratory accreditation and the pioneering work of NATA. But one NATA Councillor did his best to fill this void. In March 1951, Professor A D Ross presented a paper entitled Physical Science's Contribution to Australian Industrial Development to a meeting of The Royal Society of Arts in London. In this paper he explained the work of NATA in considerable detail.

By the end of 1953, the difficult times were over and NATA was about to experience a period of steady progress.

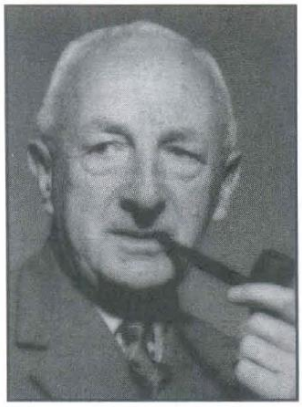
*A lighter note! For a period, Captain Nurse was in charge of Navy inspection and his brother Brigadier Nurse was in charge of Army inspection. Monaghan and Stanton referred to the brothers as "Wet Nurse" and "Dry Nurse".

Chapter 2: The Pioneers

NATA would not exist today without the enthusiasm and hard work of a small group of people who made major contributions to development of its structure, procedures and criteria and to resolution of the problems which arose between 1947 and 1953. They included:

Mr G (Gerald) Lightfoot

Gerald Lightfoot was the major contributor to development of the concept of laboratory accreditation. Despite advancing years, he continued his contribution after the formation of NATA in February 1947. He was the first Chairman of NATA Council from February 1947 to April 1948 and Vice-Chairman from April 1948 to May 1949. He continued as member of NATA Council until 1956. Gerald Lightfoot was a graduate in the mechanical sciences of Cambridge University. A specialist in patent and technical legal work, he migrated to Australia in 1906. He was the Secretary of CSIR from its formation until his retirement in 1944.

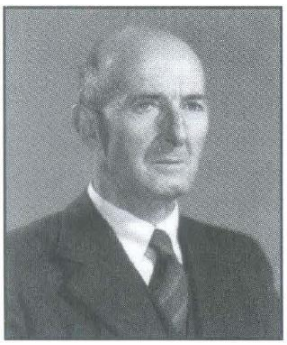


Mr W R (Bill) Jewell

Bill Jewell represented the Victorian Government at the 1945 conference which recommended the formation of NATA. He was an enthusiast for laboratory accreditation and was Chairman of the Chemical Testing Registration Advisory Committee (1947 -55), Chairman of the Victorian State Committee (1947-58) and Chairman of NATA Council from 1958 to 1961. One of his major contributions was the development of the criteria for accreditation of laboratories. He held degrees in science and metallurgy from the University of Melbourne, and was Director of the Victorian State Laboratories and Chief Chemist, Department of Agriculture until 1959. He was very active in the affairs of the Royal Australian Chemical Institute, where he served as Honorary General Secretary, Victorian President and Federal President.

Sir John Madsen

John Madsen also played a major role in developing the concept of laboratory accreditation. He was co-opted to NATA Council in February 1947 and was immediately appointed as its Vice-Chairman. He succeeded Gerald Lightfoot as NATA Chairman in April 1948 and held this office until March 1950. He was very active in the formation and development of the National Standards Laboratory. John Marsden was a graduate of University of Sydney in science and engineering. He was Professor of Electrical Engineering, University of Sydney from 1920 to 1949. He was knighted in 1941.



Mr A E (Ernest) Dawkins

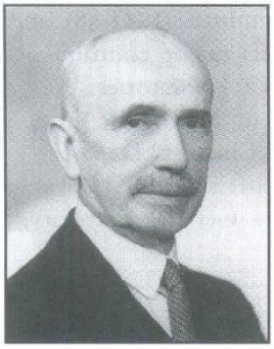
Ernest Dawkins was co-opted to NATA Council in February 1947 primarily because of his responsibility for the Approved Test House Scheme. He was appointed immediately to NATA Council's Executive Committee. He was appointed NATA Chairman in 1950 and held this office until 1958. He continued to serve on NATA Council until 1963. He deserves much of the credit for resolution of the problems which beset NATA in its early years. He was Chief Superintendent of Munitions Supply Laboratories (and its successors) from 1947 to 1957.

Mr M T W (Marshall) Eady

Marshall Eady was the major participant from the private sector in the discussions and meetings which resulted in the formation of NATA in February 1947. He was the nominee of the Associated Chambers of Manufactures of Australia (ACMA) from February 1947 until his sudden death late in 1947.

Mr W R (Rayner) Hebblewhite, O.B.E.

Rayner Hebblewhite collaborated with Gerald Lightfoot and John Madsen in the development of the concept of laboratory accreditation. His keen analytical mind and his meticulous attention to detail were invaluable in the development of NATA's structure and procedures. He was the nominee of Standards Association of Australia on NATA Council from February 1947 to July 1955 and was a member of its Executive Committee throughout that period. Rayner Hebblewhite was a graduate of University of Sydney in mechanical engineering. He was Director of the Standards Association of Australia from its formation in 1929 until 1953. He was President of the Institution of Engineers, Australia in 1949.



Professor A D Ross, C.B.E.

Professor Ross was the "Mr NATA" of Western Australia. He represented the WA Government at the 1945 conference which recommended the formation of NATA, and on NATA Council from 1947 to 1966. Professor Ross promoted NATA very effectively in Western Australia and overseas, especially in the United Kingdom. He was a graduate of Glasgow University and was Professor of Mathematics and Physics at the University of Western Australia from 1912 to 1929, and subsequently its Professor of Physics. He founded the Australian Branch of the Institute of Physics in 1924.

Mr F G (Frank) Nicholls

Frank Nicholls was a major contributor to the establishment and development of NATA. His early work was behind the scenes, where he provided assistance to Gerald Lightfoot. He replaced Lightfoot as the CSIRO nominee on NATA Council in 1949. He was the executive officer of NATA from February 1947 to November 1947. Frank Nicholls was also the major contributor to the incorporation of NATA as a company and to the establishment of the Association's first Registration Advisory Committees. He held a master's degree in science from the University of Melbourne and was Assistant Secretary of CSIRO until 1960.

Chapter 3: Twenty Years of Progress: 1953 to 1972

NATA grew steadily throughout the period from 1953 to 1972. It achieved recognition and respect throughout Australia and became a corporate entity.

The number of accredited laboratories increased from 96 at 30 June 1953 to 893 at 30 June 1972. More than 75% of these laboratories were private sector laboratories. The range of tests and the operational circumstances were far broader than those envisaged by the founders of NATA. Events confirmed the view of the Associated Chambers of Manufactures of Australia that on-site calibration services were a priority requirement. The first signs also emerged that other countries were interested in the concept of laboratory accreditation.

It was a very busy and exciting time. NATA Council, the Registration Advisory Committees, the panels of assessors and the NATA executive officers (Monaghan and Stanton) were under considerable pressure for much of this period.

APPLICATIONS FOR ACCREDITATION

NATA received a steady flow of applications for accreditation throughout this period. By May 1969, it had received 1,000 applications, with no sign of the rate of lodgement declining. The great majority of these applications were from private sector testing authorities. They came from all regions of Australia including very remote locations. (Several applications were also received for laboratories in the Territory of Papua and New Guinea.) Many of the applications were for testing activities not foreseen by the founders of NATA. NATA had to cope with mobile laboratories and temporary laboratories, and situations which called for the issue of "on the spot" interim reports. The following examples illustrate some of the testing activities not envisaged by the founders of NATA.

Early in this period, oil and gas were discovered in Bass Strait and there was much activity to set up platforms and lay pipelines. Large diameter steel pipes were delivered to barges in Bass Strait, where the pipes were joined by circumferential welds and lowered onto the sea bed. The authorities decided that NATA endorsed test reports should be provided for the radiographic examinations of the circumferential welds. But the welding process could not proceed until a circumferential weld was given its clearance and the pipe was moved forward towards the sea bed. Consequently, only a few minutes were available from completion of a weld to its clearance. In this short period, the testing technician had to place the testing equipment in position, take the radiographs of the weld, process the film, view the film and issue the test report. NATA accepted this challenge and the circumferential welds on the sea bed in Bass Strait are now covered by NATA endorsed test reports.

NATA did not expect to be involved in medical testing. But the Chief Pathologist of the Repatriation General Hospital, Heidelberg, Victoria and the proprietor of

Chelmer Diagnostic Laboratories, Melbourne, Victoria had other ideas. They applied for accreditation of their laboratories in 1954 and 1959 respectively for a comprehensive range of pathology tests. NATA accommodated these tests within its fields of Chemical Testing and Biological Testing and secured the services of eminent practitioners as assessors. Both laboratories were granted accreditation. This was some 30 years before the majority of medical testing facilities in Australia were to become accredited.

Towards the end of this period, NATA received many applications for testing of minerals, motor vehicle safety tests, environmental tests, and tests on dairy products to be exported to Japan.

ACCREDITATION STATISTICS

The number of accredited laboratories increased steadily throughout the period from 1953 to 1972. The 893 accredited laboratories at 30 June 1972 comprised 674 private sector laboratories, 182 government laboratories and 37 education laboratories.

Industry classification of NATA accredited laboratories in 1972	
Aggregates, cement, ceramics, concrete	78
Chemicals	25
Consultants, testing services	84
Electrical engineering, appliances , cables	34
Engineering	134
Foods	36
Maintenance, calibration	22
Metal finishing	8
Metallurgy	90
Paint	26
Paper	6
Petroleum	40
Pharmaceuticals	20
Plastics, rubber, leather	27
Textiles	31
Research institutes	12
Government	182
Education	37
Other	1
TOTAL	**893**

For many laboratories, there was a significant delay between receipt of the application and granting of the accreditation. The prime cause was testing equipment which had never been calibrated or was seriously overdue for calibration. This problem was most pronounced in the field of Mechanical Testing.

Throughout this period the main fields of testing for accreditation of laboratories were Chemical Testing and Mechanical Testing, but all fields of testing and all states and territories were represented.

ASSESSMENT AND REASSESSMENT OF LABORATORIES

Early in this period, NATA was engaged only in the assessment of applicant laboratories. As the years passed, it became more involved in the reassessment of accredited laboratories. Initially, accredited laboratories were reassessed at intervals up to five years, and there were few reassessments necessitated by major changes in accredited laboratories. As the demand for NATA endorsed test reports increased, so did the requests from testing authorities for additional signatories, for replacement signatories and for extensions to terms of accreditation. In addition, more accredited laboratories were reporting major changes to their staff, equipment or accommodation. Concurrently, there was an increase in the rate of receipt of new applications. These developments placed a severe strain on the Association's finances, its staff and its assessors.

In 1970, NATA Council decided to reduce the maximum period between routine reassessments from five years to two years, because visits were disclosing major changes in some accredited laboratories between reassessments. In the 1972/73 financial year, NATA conducted 428 reassessments - a dramatic increase on previous years.

NATA could not have met these commitments without a remarkable level of support from Australia's scientists, technologists, engineers and their employers. Almost without exception, they accepted invitations from NATA to join one or more of its panels of honorary assessors. They showed great enthusiasm and competence as assessors. They were very helpful to laboratories and gave freely of their professional knowledge and experience. NATA staff provided the assessors with a brief for each assessment (covering the relevant NATA criteria and the laboratory's staff, equipment and laboratory practice), but many assessments, until late in this period, were performed in the absence of a NATA staff officer.

In a few testing areas, check testing was used in the assessment of applicant laboratories, but there was no significant usage of proficiency testing for surveillance of accredited laboratories. NATA did operate two interlaboratory test programs - a paint testing program aimed at ascertaining the precision of some test methods, and an octane number program aimed at checking the performance of CFR engines.

FIELDS OF TESTING

In 1954 NATA covered eight fields of testing:

- Metrology
- Mechanical Testing
- Electrical Testing
- Photometry
- Heat and Temperature Measurement
- Industrial Radiography and Crack Detection
- Chemical Testing
- Biological Testing

Applications received between 1953 and 1972 included many tests and measurements not foreseen by NATA. But the great majority of these tests and measurements were accommodated by extending the lists of classes of test for the eight fields of testing. In 1961, NATA received requests for accreditation for measurements of sound and other mechanical vibrations. NATA Council decided that these measurements were outside the eight fields of testing and established a new field - Acoustic and Vibration Measurement.

In the early 1960s, there were also significant changes to the range of test methods employed for non-destructive testing and the field of Industrial Radiography and Crack Detection was changed to Non-destructive Testing. During the same period, the field of Photometry was broadened to Optics and Photometry. This revised list of nine fields of testing continued to meet the needs of testing authorities for many years.

REGISTRATION ADVISORY COMMITTEES (RACs)

The Registration Advisory Committees (later called Accreditation Advisory Committees) were very busy during this period and NATA owes a great debt to their chairmen and members. Some committees coped better than others and NATA Council reconstituted several committees during this period.

For example, in 1953, it became clear that the membership of the Mechanical Testing RAC lacked the breadth to cope with the wide range of tests and measurements for which laboratories sought accreditation. NATA Council decided to appoint a new Committee with Mr R P McMurrich of Defence Standards Laboratories as the Chairman. In 1965, the Photometry RAC was reconstituted with Dr W H Steel of National Standards Laboratory as Chairman. Membership of the Non-destructive Testing RAC was increased because of its increased range of tests and the demand for accreditation in this field of testing. Mr I J Ferris continued as its Chairman.

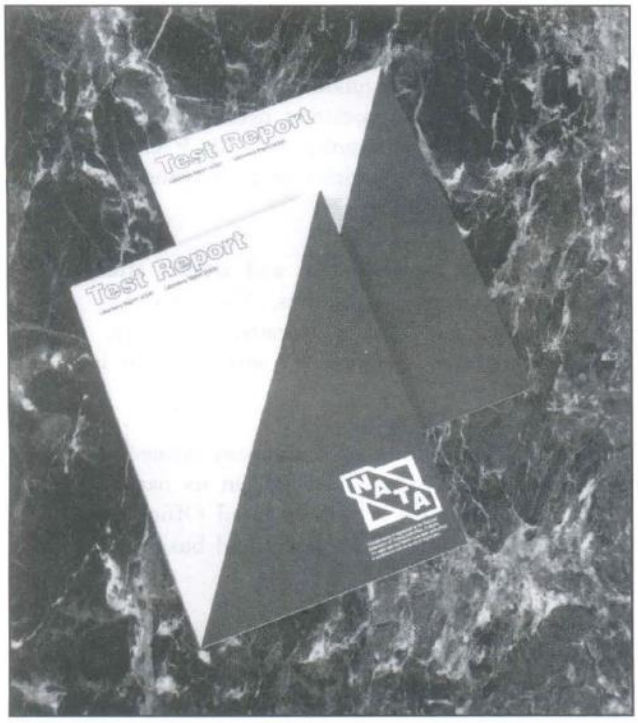
Two outstanding RAC Chairman resigned during this period - Mr W R Jewell (Chemical Testing) and Mr A F A Harper (Heat and Temperature Measurement). Their committees had been the leaders in development of lists of classes of test and specific accreditation criteria.

NATA ENDORSED TEST DOCUMENTS

In April 1948, NATA Council adopted the emblem and the endorsement for NATA endorsed test documents.

This laboratory is registered by the National Association of Testing Authorities, Australia for the classes of test herein reported.

However, the Council did not impose any obligation on accredited laboratories to issue NATA endorsed reports, nor did it actively promote them. Nevertheless, the demand for endorsed test reports gradually increased. Some testing authorities issued endorsed reports irrespective of whether they were specified by clients. Also the Defence Services, very significant purchasers of goods and services in the 1950s and 1960s, called for endorsed test reports. During the 1950s, a number of State Government departments and authorities began to demand NATA endorsement of test reports.



The publishing of NATA's Register of Laboratories encouraged the increased usage of NATA laboratories. A NATA survey in 1959 showed that there was a significant demand for NATA endorsed reports, but the pattern was uneven. It ranged from accredited laboratories which endorsed all their test documents, to accredited laboratories which issued no endorsed reports. Surprisingly, few of the organisations with accredited laboratories called for endorsed test documents from their suppliers. The survey led NATA Council to conclude that wider publicity was required to promote NATA endorsed reports.

PROMOTION OF NATA

In the 1950s, NATA relied on "word of mouth" to promote the concept of accreditation and the NATA endorsement of test documents. NATA had staff officers in New South Wales and Victoria, but relied on Honorary State Secretaries in Queensland, South Australia, Tasmania and Western Australia to spread the word. These State Secretaries worked diligently and successfully to promote NATA in their respective states. The use of "word of mouth" to promote the concept of accreditation resulted in an imbalance in the applications for accreditation of laboratories. Some industries such as the cement industry were well represented, but others such as the food industry were conspicuous by their absence.

In 1960, NATA issued its first promotional brochure *Testing: in industry and commerce.* The text was prepared by the NATA executive officers, but the brochure was designed by a young CSIRO artist, Mr Robert Ingpen, who subsequently achieved world renown as a freelance artist and illustrator. More than 20,000 copies of this brochure were distributed to testing authorities and potential users of NATA endorsed reports. This promotion was very successful and NATA received many enquiries on accreditation of laboratories and on the availability of endorsed reports. Subsequently, NATA promoted its services through papers in professional and technical journals and through presentation of papers at seminars and conferences. In the latter part of this period, NATA conducted successful symposia on laboratory accreditation and laboratory management.

INCORPORATION

NATA had operated since 1947 as an unincorporated association with its objects and procedures prescribed in its Constitution and Regulations. In 1954, NATA Council decided that NATA should seek incorporation under the New South Wales Companies Act. Council recognised that the Association needed legal status in view of its growing importance as a service organisation. Mr F G Nicholls of CSIRO prepared draft memorandum and articles of association with legal advice from the Commonwealth Crown Solicitor.

In March 1956, NATA Council approved draft memorandum and articles after consultation with State Committees and accredited laboratories. They were submitted to the NSW authorities which were less than cooperative. Finally, NATA Council withdrew its NSW application and applied for incorporation in Victoria.

On 29 June 1957, NATA was incorporated in Victoria as a company limited by guarantee and with permission not to include the word "Limited" in its name. Hence NATA had its "Registered Office" in Victoria whilst its Head Office was in New South Wales. The formal meetings to transfer the assets and business to the new company were held in July and August 1957.

One of the most significant articles prescribed the new membership of NATA Council as follows:

- Six persons nominated by the Commonwealth
- Six persons nominated respectively by the States
- Three persons nominated by the Associated Chambers of Manufactures of Australia

- One person nominated by the Standards Association of Australia
- One person nominated by the Royal Australian Chemical Institute
- One person nominated by the Institution of Engineers, Australia
- One person nominated by the Australian Institute of Physics
- The Chairmen of each of the State Committees of the Association
- One person elected by authorised representatives in each State where the number of accredited laboratories is fifty or less
- Two persons elected by authorised representatives in each State where the number of accredited laboratories exceeds fifty
- A maximum of six persons to be selected by the members referred to in the preceding paragraphs.

For the first time, NATA had a reasonably representative Council.

As NATA gained experience in the assessment and surveillance of laboratories and NATA endorsed reports were issued in greater numbers, it became clear that some changes to the articles of association and the bylaws were either essential or desirable.

In 1971, proposals for amendment of the articles of association were submitted to the Attorney-General of the State of Victoria. These amendments were not accepted by the Victorian Crown Law Office and NATA Council decided to abandon the proposal to amend the articles. But the bylaws were amended to prescribe procedures for the suspension and de-accreditation of laboratories and to state more specifically the information which could and could not be included in NATA endorsed reports.

FINANCE

Prior to 1956, the Association's sole income was an annual grant from the Commonwealth Government. In March 1956, NATA Council decided to introduce an annual membership fee for accredited laboratories. Council considered that the Commonwealth Government would react favourably to a move by NATA to obtain income from another source. It also considered that a membership fee would reinforce the concept of an association of members. Laboratories operated by the Commonwealth Government and educational authorities were exempt from this fee. State Governments were given the choice between an annual grant or membership fees for their accredited laboratories.

Prior to incorporation, CSIRO operated the Association's finances. NATA assumed this function on 1 July 1957. An application fee to assist with the cost of initial assessment of applicant laboratories was introduced from 1 January 1964.

Gradually NATA broadened its sources of income. Its income for the financial year to 30 June 1972 comprised:

Commonwealth Government Grant	$143,800
NS\'V Chamber of Manufactures Grant	$200
Membership fees	$53,405
Application Fees	$8,485
CfR Correlation Scheme Fees	$2,195
NATA Symposia	$3,200
Sale of NATA Publications	$1,080
Sundry Income	$769
TOTAL INCOME	$213,134

NATA COUNCIL

NATA Council, and especially its Executive Committee, were very busy throughout the period 1953 to 1972. Fortunately, they had outstanding Chairmen throughout this period. Mr A E Dawkins, appointed Chairman in 1950, held this office until his retirement in 1958. Under his leadership, NATA progressed from a shaky beginning and became an established and respected association.

Mr W R Jewell, who had already served NATA with distinction as Chairman of the Chemical Testing RAC, was appointed as the new Chairman. He continued the good work of Mr Dawkins until his retirement in 1961. Mr J G Ritchie was appointed to succeed Mr Jewell. For the first time, NATA had a Chairman from the private sector. Mr Ritchie was one of the nominees of the Associated Chambers of Manufactures of Australia on NATA Council. He was Vice-Chairman of the Standards Association of Australia and a highly respected professional metallurgist and laboratory manager. His appointment and his performance as NATA Chairman had a profound effect on the attitude of industry and commerce towards NATA. He continued as NATA Chairman until his retirement in 1979.

Following incorporation of the Association in June 1957, the first elections for councillors representing members of the Association in each state were held in July 1957.

ADMINISTRATION

The two executive officers (Frank Monaghan and Keith Stanton) and a small clerical staff administered NATA until 1958, when the first technical officer was appointed. The executive officers were operating under considerable pressure from the volume of work. Many assessments and reassessments were performed without staff support and the Registration Advisory Committees did not always receive adequate support from staff. Gradually the staff position improved and, by the early 1970s, the two executive officers were supported by several technical officers.

NATA Head Office moved from Pitt Street, Sydney to more spacious accommodation at Chatswood in May 1966. The Melbourne office moved from Kelvin Hall, in Melbourne to the new Clunies Ross House in Parkville in June 1968.

Chapter 4: Broader Horizons: 1972 to 1997

CONSOLIDATION AND EXPANSION

The 1970s was not so much a period of bold new directions for NATA, but an opportunity for NATA to consolidate and build upon its achievements to date. However, the 1970s was a particularly significant era for NATA in that several opportunities were beginning to emerge that would stimulate it to lay the foundations for future programs and endeavours. The medical program, the proficiency testing scheme, the development of NATA's training services as well as NATA's international role during the following decade can all trace their roots back to this period.

The 1970s began with a complete review of NATA's Rules in an effort to enhance the Association's efficiency, facilitate its future development, and improve contact with its members. The revision was eventually completed, with some difficulty due to the complexity of Company law, by mid-1974. In the early seventies, NATA also organised a series of symposia and seminars on laboratory management and related topics throughout Australia which proved not only to be very popular, but a means of disseminating NATA's philosophies and building relationships with its members. The topics for seminars were later expanded during the mid-seventies, but their presentation was never formalised in the style of the training courses offered a decade later and eventually they were abandoned.

The Australian government showed an increasing interest in NATA during the 1970s and invited representatives from the Association to Canberra on a number of occasions to present the concept and objectives of NATA to politicians, senior public servants and business groups. The State and Federal governments showed their support for NATA in the mid-seventies, both directly by insisting on NATA-endorsed reports for certain activities, and indirectly through legislation in areas such as air quality, water resources, industrial noise and motor vehicle safety. Following the Birch report in 1977, the Australian government also modified its relationship with NATA and the CSIRO, so that NATA would communicate directly with the government through the (then) Department of Science rather than via CSIRO. This ended an arrangement that had existed since NATA's creation thirty years before, although the NATA/CSIRO relationship in technical areas has continued to flourish.

Another government initiative that would see eventual NATA involvement was the establishment of a working party by the Department of Health in 1974 to examine the accreditation of pathology facilities throughout Australia. NATA offered its services to the Department to act as the accreditation agency for this

program. However, the Department of Health baulked at this proposal and NATA's involvement would be delayed for another eight years until the Royal College of Pathologists of Australasia (RCPA) grasped the nettle in 1982.

NATA accreditation was not just restricted to traditional laboratories. Schlegel Pty Limited became one of the first mobile laboratories in Australia to be accredited by NATA.

This period also saw interest and support develop for NATA from particular industrial sectors, such as the food industry, which eventually translated into the accreditation of many laboratories in these sectors. At different times, surges of accreditations occurred in areas such as pollution control, motor vehicle testing, clean room and air balancing, mineral exploration and mining.

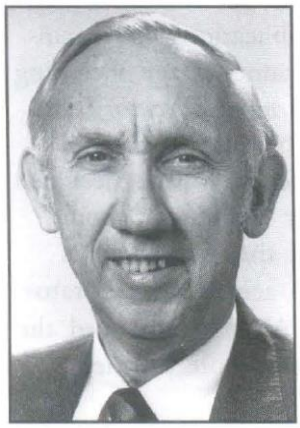
During this decade, initiatives were undertaken by NATA to improve communications with its members. Notably, several publications for members were born or came of age including *NATA News*, the *Annual Directory*, and the publication of the first Technical Notes. These publications were designed to improve member awareness about technical issues and the Association's affairs, and to increase community awareness about NATA-accredited laboratories. In 1976, this approach was further expanded when NATA commenced the use of advertising in trade and professional publications to promote its members.

Towards the end of the decade, NATA began to sponsor and organise interlaboratory testing programs as an additional quality assurance tool in its surveillance program. This would be formalised in the early 1980s as NATA's proficiency testing scheme, which was to become one of the great strengths of NATA's accreditation system.

Finally, to prepare itself for the coming decade, NATA undertook a significant restructuring of its Registration Advisory Committees in 1979. This review also saw the emergence of the first Technical Groups, created to provide specialist advice on particular technical issues.

The end of the decade also saw the retirement of two of NATA's major achievers, Mr J G Ritchie and Mr H F Monaghan, whose contributions were to be later acknowledged by the awarding of Honorary Membership of the Association (See Chapter 5). A new Chairman, Mr E E Bond, was appointed in September 1979. He had represented the Royal Australian Chemical Institute on NATA's Council since 1965, and had been NATA's Vice-chairman since 1974. Mr Bond held the position of NATA Chairman for three years, until he stood down in 1982, to be replaced by Mr W G J Ryan.

In 1979, Mr E E Bond, was appointed as NATA Chairman.



Mr W G J (Mick) Ryan succeeded Mr Bond as NATA Chairman in 1982.

Mr J A Gilmour was appointed NATA Registrar in 1979.

Mr Ryan had himself been an active contributor to NATA for many years. He was originally elected to Council as the NSW members' representative, and had held the position of Vice chairman since 1979.

The retirement of Frank Monaghan, following 30 years of service to NATA, saw the appointment of Mr John Gilmour as the new Registrar. Mr Gilmour, who had left NATA six years earlier to become the first Director of Telarc in New Zealand, was now faced with the responsibility of steering NATA through the many new challenges and opportunities presented to the Association with the dawning of a new decade.

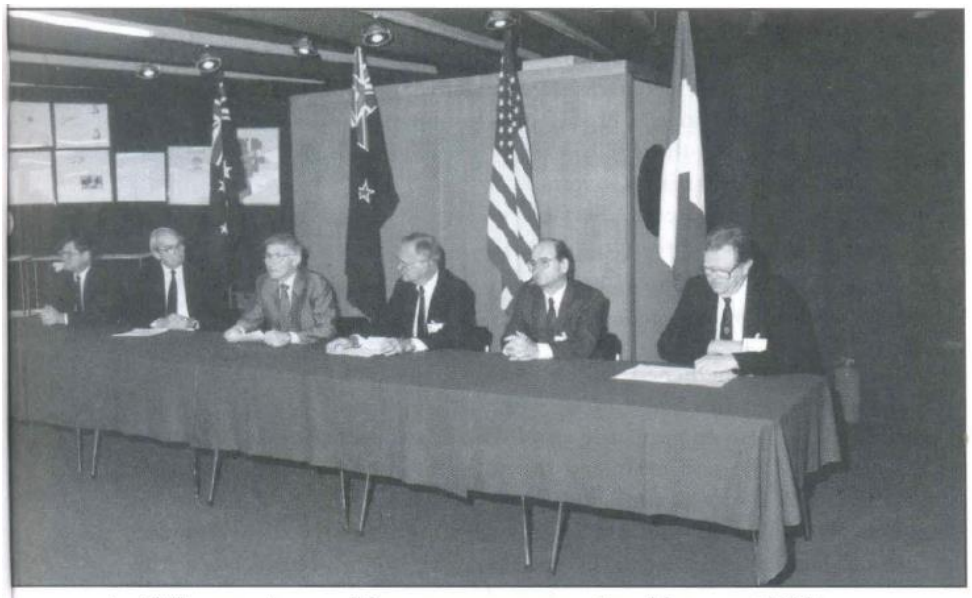
ESTABLISHING AN INTERNATIONAL REPUTATION

Prior to 1966 other countries were unaware of, or did not show interest in, the concept of laboratory accreditation. In 1966, the National Physical Laboratory introduced a scheme called the British Calibration Service (BCS) for the approval of calibration services throughout the United Kingdom. It was operated as a government scheme, but many of its criteria were similar to those adopted by NATA.

An officer of the New Zealand Government, Dr J Buckingham, became aware of NATA during a visit to Australia in the 1960s. He persuaded the New Zealand Government to consider the introduction of a similar system for New Zealand laboratories. Mr Monaghan visited New Zealand in 1968, at the government's invitation, to explain the concept of laboratory accreditation and the operations of NATA. Finally, in 1972, the New Zealand Government established the Testing Laboratory Registration Council (Telarc). A NATA staff officer, Mr John Gilmour, was appointed as the first Director of Telarc.

Denmark was the next country to establish a national scheme in 1973. Very soon after this, other countries seriously started to look at establishing their own national accreditation systems. NATA began to receive enquiries and visitors from several national measurement bodies in the United States of America and Europe, keen to understand the role and operation of NATA in Australia.

Near the end of the 1970s, the world's major trading nations were seriously considering how impediments to trade might be overcome. In this climate, an international forum was convened in 1977 to examine trade barriers related to testing. The International Laboratory Accreditation Conference (ILAC) brought together laboratory accreditation bodies and other interested parties from around the world to contribute their ideas and support for the forum. In 1979, the third ILAC conference was hosted in Australia by NATA, at what was a critical time in the development of international co-operation. In the decade that followed, NATA was to become one of the world's leading contributors to the development of an international community of national accreditation organisations.



In 1990, mutual recognition agreements were signed between NATA, A2LA (United States of America) and Telarc (New Zealand)

This involvement in ILAC was reinforced by the establishment of a series of mutual recognition agreements with national bodies in Australia's overseas markets. The first such agreement was with New Zealand (Telarc) in 1981, and NATA now party to agreements with more than 30 overseas laboratory accreditation systems. These agreements were central to the acceptance of Australian test results overseas and were further supported throughout the 1980s by NATA consultancies to assist the development of national accreditation systems in Papua New Guinea, Hong Kong, Singapore, Brazil, and other countries. NATA training courses were also conducted in many Asian and European countries, as well as in the USA during this period. Training of overseas personnel was also conducted by NATA in Australia.

Before 1980 there were, in fact, only a handful of national accreditation bodies around the globe. By 1987, 21 such organisations had been established, many with NATA's assistance. NATA also began accrediting overseas laboratories, which sought NATA accreditation for trade or other reasons. The first of these were laboratories in Singapore, which achieved accreditation in 1988, followed by at more than 40 other overseas laboratories to date.

Truly, the 1980s was a decade of unprecedented international focus on testing and related activities, to which NATA contributed significant resources and expertise.

NEW PROGRAMS AND GOVERNMENT ENQUIRIES

Domestically during this time, Australia was focusing on the development of its rich resource base. In the early 1980s, there was a surge in the accreditation of laboratories involved in the mineral resources area. Many of these laboratories were located in remote regions, and NATA had to formulate new procedures to deal with these remote accreditations. Both financially and functionally, the accreditation of these facilities presented problems due to their location and modes of operation.

The early 1980s also saw the formalisation of NATA's proficiency testing scheme, created to supplement its accreditation program. Launched in 1981, the scheme soon expanded to offer programs across almost the full spectrum of testing and measurement activities. Proficiency testing played an important role in two key health areas during the 1980s - pesticide residues in meat (organised in conjunction with the Australian Government Analytical Laboratories and the Australian Quarantine and Inspection Service) and the estimation of airborne asbestos dust (in conjunction with Worksafe Australia). These collaborations between NATA and Government authorities did much to strengthen NATA's ties with the Commonwealth.

These ties were further strengthened during the decade with the outcomes of two key Government enquiries into testing practices, standards and accreditation in Australia. The first enquiry was conducted under the Chairmanship of Professor I G Ross in 1984 and examined the role of Commonwealth government laboratories. Ten of its recommendations related to NATA and four key recommendations pertaining to the Association were accepted by the Commonwealth in 1986. These recommendations specified the NATA accreditation of Commonwealth government laboratories, as well as non-government laboratories seeking to do business with the Commonwealth. They also specified that NATA-endorsed reports be used as the basis for certification of goods to Australian Standards, and that the Commonwealth Government's grant to NATA should be maintained.

In 1986, the Committee of Review of Standards, Accreditation and Quality Control and Assurance was established under the Chairmanship of Dr K J Foley. The report from this Committee, presented to the Government the following year, recognised the significant contribution made by NATA to laboratory accreditation in Australia, and the wider impact of NATA's achievement in terms of the national good. The eventual outcome of this report was the establishment of a Memorandum of Understanding with the Commonwealth Government in 1988, which formally recognised NATA as Australia's national provider of laboratory accreditation services.

Two significant programs were launched during the 1980s in response to approaches from, firstly, the medical community, and secondly, the wool industry.

In 1983, NATA established its medical testing program to accredit pathology facilities in response to a request from the Royal College of Pathologists of Australasia. This Australia-wide program was to be administered by the Commonwealth Government, as well as the State Governments of NSW and Victoria, with NATA acting as the accreditation agency. For NATA, the medical program presented both problems and opportunities. An initial delay, followed by a shortfall in applications from medical laboratories placed a severe financial burden on the Association in the mid-to-late 1980s. The eventual swell of medical applications also stretched the logistic resources of NATA to their limits.

(In one twelve month period, 340 applications were received for medical testing accreditation). However, the medical testing program was to prove successful in its achievements with over 300 medical facilities accredited by the end of the decade.

The Australian Wool Surveillance Authority (AWSA) was established in 1988, following an approach by the Australian Wool Corporation for NATA to accept a leading role in the surveillance of wool display, sampling and testing facilities throughout Australia. The accreditation of wool facilities by NATA was aimed at enhancing international confidence in Australia's system of sampling, testing and showing greasy wool for export. This mandatory program saw the processing and registration of over 200 wool organisations during AWSA's first full year of operation. This remarkable achievement was a result of the high level of co-operation between NATA and the wool industry.

GROWTH WITHIN NATA

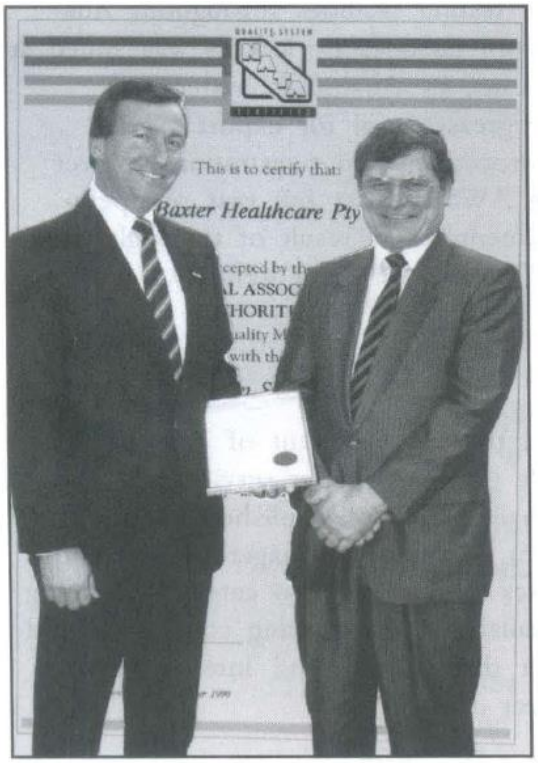
NATA's growth during the eighties included the establishment of branch offices in Perth (1984), Brisbane (1986) and Adelaide (1989) to better service the needs of its clients and the community. Additionally, NATA established comprehensive training programs for its assessors (1985), laboratory managers (1987) and quality practitioners (1989/90). These courses were created to cater for training needs not satisfied by other courses then available. The training courses offered by NATA proved immensely popular, both domestically and internationally, and have since been further expanded to meet demand.

Internally, NATA had to adjust not only to a rapidly increasing membership (over 2,000 facilities were accredited by 1990), but also to increased staff resources spread around the continent and to new technologies available for the processing of its accredited laboratories and applicants. Operating procedures, policies and accreditation criteria all had to be reviewed and amended where necessary. The early 1980s saw the development and implementation of a new Corporate Plan which set objectives for the surveillance programs, goals for corporate development and plans for NATA's interaction with other industry and government bodies. It was subsequently reviewed and updated in 1989. The late 1980s also saw a full revision of NATA's Rules, which was completed by 1990 and published shortly thereafter. The new Rules provided a clearer definition of criteria for accreditation and provided greater flexibility for members to certify their conformance with their customers' specifications.

The Association was to emerge from the 1980s a more robust and diversified organisation, whose focus was now more finely tuned to its customers, as well as to industry and government needs. It was these qualities that were to prepare it for the next decade, which presented a new set of challenges and opportunities for NATA.

DEMAND BRINGS DIVERSIFICATION

Undoubtedly, the most important influence on NATA's development in the 1990s to date, has been the tide of quality awareness that has immersed Australia and, in fact, the world.



In 1990, Baxter Healthcare Pty Ltd became the first organisation to have its quality management system certified by NATA.

The quality movement in Australia gathered momentum in the mid-to-late 1980s, and NATA had already recognised this in its dealings with its accredited laboratories. In 1987, NATA introduced the concept of quality systems documentation to Australian laboratories by requiring the development and use of Laboratory Quality Manuals. By the close of the decade, NATA members were already approaching NATA to expand its accreditation activities to include quality systems certification. In 1990, NATA therefore commenced offering certification to national and international quality management standards. Initially, this was directed at its member laboratories, however interest was soon received from organisations which had no involvement with testing and no previous association with NATA.

The growth in this program has been phenomenal and, in fact, has exceeded the growth rates experienced in the wool and medical programs during the 1980s. Within eight years of its commencement, over 1000 organisations had achieved certification and NATA's staff resources in this area had increased ten-fold during the same period. There was also overseas interest in NATA quality management systems certification, with certifications in countries such as New Zealand and Fiji.

Maturity of the quality systems certification program was reached in March 1993, with its formal recognition by the Joint Accreditation System of Australia and New Zealand (JAS-ANZ), the first such recognition in Australia. NATA also responded to the quality needs of small businesses by launching the Q-Base program in late 1993. This certification is tailored to the specific needs of smaller companies and had been successfully operated in New Zealand for several years.

More recently NATA extended its certification activities to cover environmental management standards such as ISO 14001. NATA has had a long involvement in the auditing of environmental monitoring and testing facilities through its laboratory accreditation program. The strong scientific and technical basis of NATA, combined with its experience in management systems auditing had placed NATA in a unique position to offer this type of certification. NATA subsequently gained accreditation by JAS-ANZ for this program.

The first half of the 1990s also saw considerable diversification of NATA laboratory accreditation activities in response to requests from various industry sectors. During 1992, NATA launched new accreditation programs for inspection services and forensic sciences. In 1993, in response to a request from the construction materials industry, NATA introduced a program for the accreditation of construction materials testers. Initially limited to the sampling and testing of concrete, this program was extended in 1997 to include field work covering binders, aggregates and bitumen.

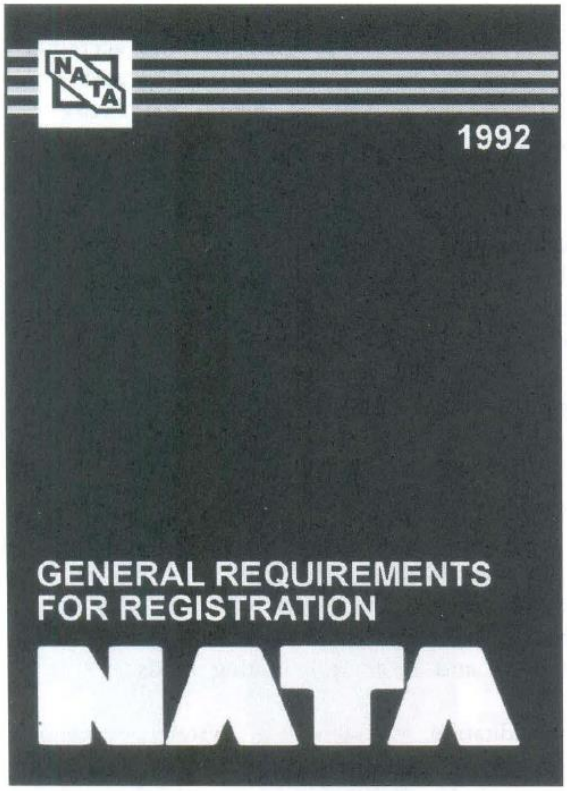
NATA's traditional accreditation fields have themselves adapted to changing industry demands as well as new legislation and government policies. In October 1990, the Agreement on Standards, Accreditation and Quality (ASAQ) was signed between the Australian Commonwealth, State and Territory Governments, and the New Zealand Government. This Agreement was established to provide a mechanism for eliminating inefficiencies caused by inconsistent use of standards and accreditation systems by government. NATA was appointed as one of the organisations involved in the ASAQ Monitoring Committee. The Agreement supports NATA's MOU with the Commonwealth Government as well as NATA's mutual recognition agreement with New Zealand.

The following year saw an increase in the accreditation of laboratories involved in environmental testing. These accreditations for activities such as soil and water testing, air monitoring and the analysis of stack gas omissions were incorporated under the Chemical Testing and Biological Testing fields.

NATA also commenced offering accreditation to Calibration Systems Standards in 1993. In addition, following a specific recommendation in the Foley Committee report, NATA was appointed as the national authority in Australia for monitoring compliance with OECD Principles of Good Laboratory Practice and undertook the first accreditations in this area in 1991.

NATA was also engaged in 1991 by the Australian Quarantine and Inspection Service (AQIS) to satisfy the requirements of the US Food and Drug Administration in relation to the assessment of shellfish imported from Australia by the United States of America. These and other collaborations have presented vital opportunities in recent years to further promote the international acceptance of Australian test data.

Such international activities continue to be supported by NATA's active involvement in ILAC, and the continuing utilisation of NATA's training courses by overseas organisations. Very importantly, a regional co-operation of national accreditation bodies in the Asia Pacific region was established in 1992. The cooperation, known as the Asia Pacific Laboratory Accreditation Cooperation (APLAC), includes many of Australia's principal trading partners in South-East Asia, America and the Pacific. NATA has actively contributed both support and resources to help develop this regional forum which, like ILAC, should assist with the elimination of trade barriers related to testing in the region.



PREPARING FOR THE NEW CENTURY

In 1989, Mr Mick Ryan retired after six years as NATA Chairman. Mr C A Baker was elected as the new Chairman after serving as both Council Vice-chairman for three years, and Chairman of the Mechanical Testing Registration Advisory Committee for ten years (see Chapter 5). Mr Baker's term as Chairman coincided with one of the most critical and demanding periods in NATA's history.

International criteria for accreditation were absorbed into NATA's own laboratory accreditation procedures with the review of its criteria in early 1991 and the publication of its new General Requirements for Registration in 1992. These and the associated field-specific Supplementary Requirements for Registration are based on ISO/IEC Guide 25 guidelines which have been adopted by many national systems around the globe. This has ensured that NATA's criteria remain in harmony with those of other accreditation bodies, and are not the source of problems in the international acceptance of test results. The new NATA requirements also further develop the quality systems approach within laboratories, including documentation control, corrective action procedures and quality auditing. This review of criteria for laboratory accreditation has also been accompanied by changes in accreditation practices to allow for more efficient, yet more thorough, assessments of applicant and accredited laboratories.

The rate of growth of members in the traditional laboratory areas has, in fact, diminished over the past three years. This is not so much due to fewer applications for accreditation being received, but more related to the closure of a large number of testing facilities and the rationalisation of testing services in the early 1990s, so that the net effect has been a levelling out in growth. This, however, tends to mask a continuing high demand for NATA accreditation, both by testing services themselves, as well as their clients in industry and government.

The only major area of accreditation to be significantly affected by altered customer demands was the Wool Surveillance Program. In 1991, a major restructuring of the wool industry began in an effort to revitalise Australia's wool exports. The Australian Wool Exchange has assumed responsibility for the registration of sampling sites and showfloors via the services of Australian Wool Testing Authority Ltd.

From 1994 to 1995, the Australian government conducted the most extensive review ever undertaken of Australia's standards and conformance infrastructure. NATA's role in the technical infrastructure was intensively examined, including its status as Australia's sole recognised provider of laboratory accreditation. Other national infrastructure bodies were similarly examined including Standards Australia and the CSIRO's National Measurement Laboratory. At the conclusion of the review, the Australian government restated its support and recognition of NATA's unique role in the country's national measurement system, and also NATA's important role in the international testing and accreditation community. This was reflected in the signing, in early 1998, of a revised Memorandum of Understanding between the Commonwealth and NATA, recognising NATA as Australia's national accreditor of laboratories.

The government also recommended a separation of NATA's accreditation and certification activities, necessitating both a revision of its rules and a restructuring of the Association. This restructuring was undertaken throughout 1996/97, and included a revision of NATA's rules by former NATA Chairman, Mr C A Baker. The transition of the Association to the new corporate structure and the implementation of the revised rules was overseen by NATA's Chairman, Mr M K Gledden, who succeeded Mr Baker in 1995.

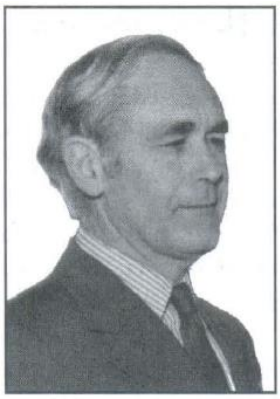
Chapter 5: NATA's Honorary Members

Amongst the thousands of people who have contributed to NATA's success over the past 50 years, there are those whose efforts and achievements have warranted special recognition. The Association's Council decided that the most appropriate form of recognition is to bestow on these people Honorary membership of the Association. To date, honorary membership has been granted to only a handful of individuals, each of whom has rendered outstanding service to NATA. These Honorary Members are:

MR H F (FRANK) MONAGHAN M.B.E.

The magnitude of Frank Monaghan's contribution to laboratory accreditation, not only in Australia, but internationally, can not be overstated. For 30 years he helped establish and apply the concepts of good laboratory practice in Australia, and developed NATA into the world's premier laboratory accreditation system. Frank originally trained as a chemist and, upon graduating with a Bachelor of Science (Hons) degree, joined the Australian Gaslight Company. In 1949, Frank joined NATA (which was barely two years old at the time) and became the Registrar of the embryonic Association. For the next three decades Frank guided the formation and development of NATA's policies and practices in conjunction with people like Jack Ritchie. Ably supported by the Deputy Registrar, Keith Stanton, and a number of far sighted individuals in the industrial and scientific communities, Frank set about overcoming the initial and, in many instances, strong opposition to accreditation from various sectors of the community.

Frank not only made an enormous contribution to Australia's laboratory accreditation system, but he was also a founding contributor to the International Laboratory Accreditation Cooperation (ILAC), which has been responsible for much of the harmonising of standards of laboratory accreditation throughout the world. In this regard, much of the international community has followed NATA's lead in establishing their own accreditation systems. In 1977, Frank was awarded an MBE for his services to technology in Australia. By the time of his retirement in 1979, Frank had achieved goals that perhaps otherwise may not have been realised. Today, NATA continues to grow and benefit from the solid foundation laid by Frank Monaghan. This recognition and appreciation was translated into real terms when, together with Jack Ritchie, Frank was made an Honorary Member of the Association in 1990 through a unanimous resolution of NATA's Council.



MR J G (JACK) RITCHIE O.B.E.

Jack served as Chairman of the Association from September 1961 to September 1979. This period saw a rapid growth in membership of the Association (the number of registered laboratories increased from 340 in 1961 to 1110 in 1979). It also saw significant development and establishment of NATA's structure and operation, and a consolidation of NATA's position in the Australian industrial infrastructure.

Jack's involvement with NATA extended back 10 years earlier, to March 1951, when he was appointed the authorised representative for McPherson's Limited. In June 1953, the then Associated Chamber of Manufactures of Australia appointed Jack to the Council of NATA as one of its three representatives. Up to that time the Chamber had opposed the idea of accreditation of industry (and government) laboratories. Jack's involvement helped foster industry participation in the accreditation system, to the extent that today most of the Association's membership is industry-based.

In 1954, Jack was appointed to the Mechanical Testing Registration Advisory Committee. Four years later he was elected Vice-chairman of NATA Council, leading to his subsequent appointment as Chairman. In recognition of his enormous contribution to NATA, Jack was voted an Honorary Member of the Association by a unanimous resolution of the Council in September 1990.

MR K N (KEITH) STANTON

On 28 October 1992, Keith Stanton was awarded Honorary Membership of NATA, becoming only the third person so recognised. When NATA was established in 1947, Keith was recruited as Victorian State Secretary. He commenced on 10 November of that year, joining Reg Eldridge as one of the first two NATA officers. Keith was appointed Deputy Registrar in 1951, a position he held until his retirement in 1985.

Keith's interests were not confined to laboratory accreditation and he had a very active interest in professional bodies such as the Australian Organisation for Quality Control, in which he served in many capacities, notably as National President for 1982-83. His great contribution to AOQC and the development of awareness of quality issues has been recognised by the award of the 1986 Juran Medal, a well-earned tribute from the AOQC. Keith was also very involved in the non-destructive testing area and has been a member of AINDT since its inception. He was a founding member of the AINDT Qualifying Board and received the J H Cole Award for his services to nondestructive testing in 1997. The conferring of Honorary Membership recognised Keith's outstanding contribution to the growth and development of NATA.

DR WEL (LEW) DAVIES

Dr Lew Davies served the Association in many capacities, notably as Vice-Chairman of Council (and the Council's Executive Committee) from 1989 to 1993 and also as Chairman of NATA's Medical Testing RAC from 1983 to 1994. He played a major role in many events and decisions that have influenced the direction of NATA and its policies.

Lew oversaw the sometimes turbulent growth of the NATA/RCPA Medical Testing program from its conception in the late 1970s through to its 500th registered laboratory in 1994. As Vice-President of the RCPA, Lew was in a unique position to see the NATA/RCPA program to fruition, and to ensure its direction and purpose were in harmony with the needs of pathology laboratories and the Commonwealth government. Lew was also instrumental in the relocation of NATA's Head Office from Chatswood to Rhodes in the early 1990s and in the negotiations for the property's purchase, giving NATA its first major financial asset since its establishment.

Lew's career stretched back over 40 years to 1954 when he commenced working at Sydney Hospital. He was a medical officer at a number of Sydney-based hospitals before becoming a partner at the practice of Davies and Partners Pathology. A unanimous vote for Honorary Membership by Council in 1995 reflected the esteem in which Lew Davies is held by those who have worked with him.

MR C A (CLIFF) BAKER

Cliff Baker became a NATA signatory in March 1955 when the laboratory of the (then) Commonwealth Department of Works became an accredited laboratory in the field of Mechanical Testing. In 1956, he was appointed a NATA assessor and continued in this role until 1996. By the time Cliff retired he had conducted a great many assessments over forty years.

In 1959, he became the authorised representative of the laboratory of CSR Humes Pty Ltd and held this position for some thirty years.

Cliff joined the Mechanical Testing Registration Advisory Committee and was appointed its Chairman in 1979. He retired from this position in 1989 when he became Chairman of NATA Council. He joined NATA Council in 1983 as one of the three nominations of the Confederation of Australian Industry and continued his membership on Council as a nominee of the Australian Chamber of Commerce and Industry. In 1985, he was elected to NATA's Executive Committee, became Vice-Chairman of Council in 1986 and served as Chairman of Council from 1989 to 1995.

From 1995 to 1997, Cliff was deeply involved in the revision of NATA's rules and developing the mechanism of NATA's corporate restructure following the recommendations of the Kean Report. During his time as Chairman of Council he was instrumental in negotiating the arrangements for the purchase of NATA's head office building at Rhodes.

Cliff served the Association exceptionally well for over forty years and NATA's Executive Committee had no hesitation in recommending Cliff for Honorary Membership in March 1997.

Chapter 6: The Future

Looking into the future is always a dangerous exercise, particularly in a world that is changing faster than ever before in terms of technology, trade and international affairs. In the current climate of global quality consciousness, it is hard to foresee a time when the work undertaken by NATA will become less important or relevant. Both domestically and internationally, customers are demanding reliable yet affordable products, and the processes of laboratory accreditation can help deliver both.

Other countries around the world are also embracing laboratory accreditation, and have or are developing systems comparable with that of Australia. At the same time the relationship between laboratory accreditation and other, more recently developed, conformity assessment approaches is becoming more clearly defined. These approaches, such as the certification of management systems, personnel and products, will no longer be seen as alternatives to laboratory accreditation, but as complementary mechanisms suited to different situations but with a common objective - providing assurance to customers.

NATA today is a much larger and more diversified organisation than that of ten, or even five, years ago. Its activities have been moulded and dictated to a large degree by the interests of government, industry, and community sectors, and in more recent times, by Australia's international objectives. This is to be expected as NATA has always been, and will remain, a service organisation. However, it is also seen as a technical authority, an active participant in international affairs, a forum for innovation and development of accreditation and certification practices and, most importantly, an association of members from many fields of endeavour but with a common desire to maintain and improve standards.