

# International Mutual Recognition of Engineers

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in collaboration with  
Peter Greenwood, Chair of the Washington Accord

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## General Background

*The recognition of engineering qualifications on an international basis is a subject with a long history. As far back as the turn of the last century, there was some form of acceptance of certain types of professional qualifications. But in general the recognition issue was not pursued with any vigour by the profession.*

*In the early sixties, with more movement of professionally qualified people from one country to another, it became quite common for bilateral agreements to be signed between two professional institutions from different countries, where some form of mutual recognition was covered.*

*Although this did not apply to all countries, in attempting to improve the status of engineers, the process of registering or licensing of engineers became more prevalent also in the early sixties, where engineers were held accountable for their actions and the focus was put on public health and safety.*

*Apart therefore from restrictions to mobility placed by governments through immigration controls, the mobility of engineers has always been fairly restricted by the profession itself. This is understandable as standards vary enormously worldwide.*

## Introduction to Current Initiatives for the Mutual Recognition of Engineers

Over the last decade, with the international discussions that have taken place for the recognition of practitioners in the engineering profession, generally it is evident that the

majority of countries divide the development of an engineering professional into two stages:

- Programme for an Academic Qualification; and
- Professional Development and Registration

Two major groupings have emerged from the above, each handling one of the phases.

## Agreements Developed for Recognition of the Academic Phase

### Washington Accord

- Background to the Establishment of the Washington Accord

The existence of many bilateral agreements prompted six countries in 1988 to meet and to develop the original Washington Accord, known then as the Six Nation Accord, which was signed in 1989.

This was effectively the first major attempt to establish a benchmark for not only the level and content of the degree for engineers but also the accreditation process. A new version of the Washington Accord agreement was concluded in 1997 in further support of these latter issues.

- The Agreement

The purpose of the Accord is recognition of the equivalence of accredited engineering education programs leading to the engineering

degree and is applicable only to engineers. It is essentially a quality assurance process and is based on world best practice.

Briefly, the Accord has the following basic terms of agreement:

The signatories:

- Accept that accreditation procedures are comparable;
- Accept one another's accredited degrees from the date of admission as a Full Member;
- Agree to identify and encourage implementation of best practice;
- Accept mutual monitoring;
- Accept that it applies to accreditations in home jurisdictions only; and
- Accept the need to encourage licensing and registration authorities to apply the agreement.
- Membership

The Full Members are:

Australia – The Institution of Engineers, Australia (IEAust) - 1989

Canada – The Canadian Council of Professional Engineers (CCPE) - 1989

Ireland - The Institution of Engineers of Ireland (IEI) - 1989

New Zealand - The Institution of Professional Engineers, New Zealand (IPENZ) - 1989

United Kingdom - The Engineering Council, United Kingdom (EC(UK)) - 1989

United States of America - The Accreditation Board for Engineering and Technology (ABET) - 1989

South Africa - The Engineering Council of South Africa (ECSA) – 1993/99

Hong Kong, China - The Hong Kong Institution of Engineers (HKIE) - 1995

The current Provisional Members are:

Japan - Japan Accreditation Board for Engineering Education (JABEE) - 2001

Malaysia - Board of Engineers  
Malaysia (BEM) - 2003

Singapore - The Institution of Engineers, Singapore (IES) - 2003

Germany - Accreditation Agency for Study Programmes in Engineering and Informatics (ASIIN) - 2003

The present Chair is provided by IEAust, Dr Peter Greenwood, and the Secretariat provided by ABET.

## Academic Agreements for Recognition of other Members of the Engineering Team

Flowing from the Washington Accord, a similar agreement was developed for Engineering Technologists or Incorporated Engineers, called the Sydney Accord, which was signed in 2001. The signatories to this agreement are:

Australia – The Institution of Engineers, Australia (IEAust)

Canada – The Canadian Council for Technicians and Technologists (CCTT)

Ireland - The Institution of Engineers of Ireland (IEI)

New Zealand - The Institution of Professional Engineers, New Zealand (IPENZ)

United Kingdom - The Engineering Council, United Kingdom (EC(UK))

South Africa - The Engineering Council of South Africa (ECSA)

Hong Kong, China - The Hong Kong Institution of Engineers (HKIE)

The present chair is provided by EC(UK), Mr Barry Dobson, and the Secretariat provided by ECSA.

An agreement has also been developed for Engineering Technicians, called the **Dublin Accord**. This Accord was signed in May 2002 and its signatories are:

Canada – The Canadian Council for Technicians and Technologists (CCTT)

Ireland - The Institution of Engineers of Ireland (IEI)

United Kingdom - The Engineering Council, United Kingdom (EC(UK))

South Africa - The Engineering Council of South Africa (ECSA)

The present chair is also provided by EC(UK), Mr Barry Dobson, and the Secretariat provided by IEI.

## Agreements Developed for Recognition at the Full Professional Level

- Engineers Mobility Forum (EMF)
- Background to the Establishment of the EMF

At the Washington Accord meeting in 1995, a working group was set up to explore mutual recognition for experienced engineers. This group, known as the Hong Kong Working Group, met in March 1996, together with observers nominated by the European Federation of National Engineering Associations (FEANI), and, with the addition of observers from the Japan Consulting Engineers Association, in January 1997.

Following the report of this group, at the meeting of the Washington Accord signatories in October 1997, it was agreed to establish an independent forum to be known as the Engineers Mobility Forum (EMF).

At a meeting held in London in July 1998, the participants agreed to recommend that the organisations that they represented consider becoming signatories to a draft Agreement to Establish and Maintain an International Register of Engineers. Following periods of consultation in each economy, and further discussions at meetings held in Sydney, Australia in November 1999 and Vancouver, Canada in June 2000, the participants further agreed to amend the original Memorandum of Understanding, which restricted membership of the EMF to Washington Accord economies. This permitted a wider range of organisations to become Members of the Engineers Mobility Forum. It

should be noted that the Washington Accord only accepts degrees from the date of admission of a signatory as a Full Member and hence would often not be applicable to current practicing engineers. In essence, however, the academic standard remains similar to that set for a Washington Accord accredited degree.

In terms of the total package presented by an economy, the EMF may recognize degrees:

- a) delivered and accredited in accordance with the best practice guidelines developed by the Federation of Engineering Institutions of South East Asia and the Pacific; or
- b) listed in the Index compiled by the Federation Europeenne d'Associations Nationales d'Ingenieurs (FEANI); or
- c) an appropriate engineering degree programme validated by –
  - (i) the *Engineer-in-Training* examination set by the Japan Consulting Engineers Association; or
  - (ii) the combined *Fundamentals of Engineering and Principles and Practices of Engineering* examinations set by the United States National Council of Examiners in Engineering and Surveying; or
- d) a structured programme of engineering education accredited by an agency independent of the education provider, and/or one or more written examinations set by an authorised body within an economy, provided that the accreditation procedures and criteria and/or the examination standards have been endorsed by all current signatories.

The participants further agreed that the revised Memorandum of Understanding, and the revised draft of an Agreement to Establish and Maintain an International Register of Professional Engineers should be submitted to the organisations which they represented with a recommendation that those organisations become signatories to the Agreement.

These two agreements, having been ratified

by the governing bodies of all the organizations involved, were finally signed in June 2001 at Thornybush Game Reserve in South Africa. As both these agreements were formed through a process of development, it was agreed that they be consolidated in a single document, called the Constitution of the EMF, which was approved by the members at the meeting held in June 2003 in Rotorua, New Zealand.

In the area of independent professional practice, the establishment of the EMF and all that it represents is a major attempt to establish a benchmark for the level of development, competence and professionalism required of a practitioner, who should be acceptable internationally.

- The Agreement

The purpose of the EMF is to establish and maintain an International Register of Professional Engineers.

The objectives of the EMF are as follows:

- Facilitate international mobility of professional engineers
- Establish a de-centralised International Register of Professional Engineers
- Promote best practice
- Continue mutual monitoring
- Understand existing barriers to mobility and develop strategies to assist governments and licensing authorities to manage the barriers.
- Encourage governments and licensing authorities to adopt the EMF agreement

## Membership

The Full Members of the EMF are:

Australia - The Institution of Engineers, Australia (October 1997)

Canada - The Canadian Council of Professional Engineers (October 1997)

Hong Kong, China - The Hong Kong Institution of Engineers (October 1997)

Ireland - The Institution of Engineers of Ireland (October 1997)

New Zealand - The Institution of Professional Engineers, New Zealand (October 1997)

*South Africa - The Engineering Council of South Africa (October 1997)*

*UK - The Engineering Council, United Kingdom (October 1997)*

USA - The United States Council for International Engineering Practice (October 1997)

*Japan - The Institution of Professional Engineers, Japan (November 1999)*

Malaysia - The Institution of Engineers, Malaysia (November 1999)

Korea - The Korean Professional Engineers Association (June 2000)

The current Provisional Members are:

Bangladesh - The Bangladesh Professional Engineers Registration Board (June 2003)

India - The Institution of Engineers (India) (June 2003)

Observers are:

The Federation of European National Engineering Associations (October 1997)

The APEC Engineer Coordinating Committee (June 2000)

The present Chair is provided by ECSA, Mr Alec Hay, and the Secretariat provided by EC (UK) through Mr Chris Simpson.

- The International Register

The EMF International Register of Professional Engineers is intended to provide a framework for the recognition of experienced professional engineers by responsible bodies in each of the Member organisation's economies. In particular, such bodies will be encouraged to use the Register as a secure benchmark for arrangements, which provide mutual recognition or exemption and/or streamline

access by professional engineers to licensing or registration in economies other than that in which they first gained recognition.

The register is a decentralised one and the committee of the EMF responsible for this register is the International Register Coordinating Committee, which consists of representatives of all Provisional and Full Members.

Only signatories with an approved Assessment Statement are Full Members and they have a vote on this Committee.

The Committee is responsible for:

- approving Assessment Statements;
- authorising a signatory to have a decentralised register; and
- controlling the monitoring process.

The chair and secretariat are the same as for the EMF.

The entry requirements for individuals to the International Register are as follows:

Candidates must:

- have reached an overall academic level substantially equivalent to a WA degree;
- have been assessed in their own economy as eligible for independent practice;
- have had seven years practical experience since graduation;
- have spent at least two years in responsible charge of significant engineering work; and
- have maintained their Continuing Professional Development (CPD) at a satisfactory level.

## Progress and Challenges Facing the EMF

An issue raised at the last set of International Engineering Meetings in New Zealand was the question of 'branding'. It was accepted in the EMF that this was desirable and the signatories agreed to recommend to their governing bodies that the EMF should adopt the use of a post nominal, IntPE, for engineers who are

registered on the International Register. This matter has been ratified by most signatories and should be in use shortly.

The main challenge facing the EMF is the question of 'Granting Right of Practice'. Discussions at the last meeting indicated that of the eleven Full Members, five were fairly open, two have residency requirements and four have major statutory restrictions. These statutory difficulties constitute barriers to mobility and in the future the EMF will need to focus attention on this matter. At this stage, any networking to assist in getting closer to resolving the issue would be welcome. In this context, both the World Federation of Engineering Organizations and its connections to the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Trade Organization (WTO) could be of value.

A vision in the EMF is that regional registers like that of APEC, FEANI, NAFTA and others could with time, effort and collaboration be incorporated as regional registers of the EMF.

## Other Mobility Initiatives

- FEANI

The European Federation of National Engineering Associations was established in 1951 and is one of the older organizations seeking recognition of engineering practitioners for purposes of mobility. With some 27 member countries, variations exist in level and content of degrees within FEANI. Accreditation and the operation of a national register are further matters that vary from one member country to another. FEANI is an official observer on the EMF and their interaction with the EMF member countries assures close cooperation.

- NAFTA

A relatively recent initiative also has been the development of the recognition of engineering qualifications of the North American Free Trade Association. Although the writers are not very conversant with the exact details of the agreement, it is understood that it has had positive influences in that region.

- The APEC Engineering Register

This initiative was started at a similar time to that of the EMF. Their development process

towards a register was facilitated through the APEC Economic Leaders and the APEC Human Resource Development Ministers. Generally, the standards required for being on this register and that of the EMF are the same. The current members of the APEC Coordinating Committee are: Malaysia (Chair), Australia (Secretariat), Canada, Hong Kong China, Indonesia, Japan, Korea, New Zealand, Philippines, Thailand and the United States.

As the standards are the same and the methods of operation are similar, both the EMF and APEC are working towards closer collaboration.

- ETMF

The Engineering Technologists Mobility Forum emerged from the Sydney Accord and has been structured in a similar manner to the EMF. The Agreement to Establish an International Register of Engineering Technologists was signed in June 2003. The signatories to this agreement are:

Canada – The Canadian Council for Technicians and Technologists (CCTT)

Ireland - The Institution of Engineers of Ireland (IEI)

New Zealand - The Institution of Professional Engineers, New Zealand (IPENZ)

United Kingdom - The Engineering Council, United Kingdom (EC(UK))

South Africa - The Engineering Council of South Africa (ECSA)

Hong Kong, China - The Hong Kong Institution of Engineers (HKIE)

The present Chair is provided by ECSA, Mr Terry Stidworthy, and the Secretariat provided by EC(UK) through Mr Chris Simpson.

## Conclusions

Through these discussions it is apparent that in many countries one can generally say that the profession can be divided into two spheres; the voluntary side covering learned society and vocational issues and the regulatory side covering accreditation, registration, licensing and discipline. The former is focused inwards on the profession and is usually controlled and organised by the profession itself. The latter,

often through statutory means in addition to the involvement of the profession, is focused on public health and safety, and may have some form of government control. Generally, all the participants in the discussions groups covered in this article are from the latter group covering the regulatory side.

Real and meaningful international recognition only comes from fairly rigorous processes built into agreements. It should also be apparent from the time taken to actually achieve acceptance by the parties involved in many of these agreements, that they do take time. They are not like 'club' agreements, which focus on cooperation, and which can be reasonably easily negotiated. If critical issues such as benchmarked standards, quality assurance, competency, risk management and accountability are not covered, then such agreements will not get off the starting blocks, and mobility will remain a dream.

The Washington Accord, the Sydney Accord, the Dublin Accord, the APEC Engineer Coordinating Committee, the Engineers Mobility Forum and the Engineering Technologists Mobility Forum groups collectively have chosen when meeting together to be known as the International Engineering Meetings (IEM). There is general consensus that all need to move towards having a group which covers the academic side and a second group to cover mobility to ensure economic use of available resources.

Although an applicant country needs to meet extensive requirements to become signatories to these agreements, some key issues need to be in place before such a step can be contemplated. Essentially for a country to start the process of obtaining provisional membership, there are some basic requirements to be met. For the academic side, namely the Washington Accord, the Sydney Accord and the Dublin Accord, an accreditation system, independent of the educational institutions being accredited, is required. For the professional practice side, namely the Engineers Mobility Forum, the APEC Engineer Coordinating Committee and the Engineering Technologists Mobility Forum, the country needs to have a national register in place.

Interest is growing internationally in these initiatives. At the last set of International Engineering Meetings in New Zealand in June

2003, 22 countries were present. More are expected to attend the next set of IEM meetings to be held in Hong Kong in 2005 as visitors.

Countries not yet involved are welcome to make contact with any of the persons listed in the attached Annexure A, which gives contact details for each of the groups involved. The Secretariats in conjunction with their Chairs can make the necessary arrangements for an organization to attend the meetings for the first time as visitors.

# Annexure A

## Contact List IEM - November 2003

### ACADEMIC

#### Washington Accord (Engineers)

Chair:	Australia	(IEAust)	Dr Peter Greenwood	<a href="mailto:peterg@tpg.com.au">peterg@tpg.com.au</a>
			Mr Maurice Allen	<a href="mailto:mallen@ieaust.org.au">mallen@ieaust.org.au</a>
Secretariat:	USA	(ABET)	Dr George Peterson	<a href="mailto:gpeterson@abet.org">gpeterson@abet.org</a>
			Ms Kate Aberle	<a href="mailto:kaberle@abet.org">kaberle@abet.org</a>

#### Sydney Accord (Technologists)

Chair:	UK	(EC(UK))	Mr Barry Dobson	<a href="mailto:bmdobson@aol.com">bmdobson@aol.com</a>
			Ms Katy Turff	<a href="mailto:katy.turff@iie.org.uk">katy.turff@iie.org.uk</a>
Secretariat:	SA	(ECSA)	Mr Terry Stidworthy	<a href="mailto:stidworthyt@absamail.co.za">stidworthyt@absamail.co.za</a>
			Mr Paul Roux	<a href="mailto:paulroux@ecsa.co.za">paulroux@ecsa.co.za</a>

#### Dublin Accord (Technicians)

Chair:	UK	(EC(UK))	Mr Barry Dobson	<a href="mailto:bmdobson@aol.com">bmdobson@aol.com</a>
			Ms Katy Turff	<a href="mailto:katy.turff@iie.org.uk">katy.turff@iie.org.uk</a>
Secretariat:	Ireland	(IEI)	Mr Paddy Pursell	<a href="mailto:paddypurcell@iei.ie">paddypurcell@iei.ie</a>
			Mr Denis McGrath	<a href="mailto:denismcgrath@iei.ie">denismcgrath@iei.ie</a>

### PROFESSIONAL LEVEL

#### Engineers Mobility Forum

Chair:	SA	(ECSA)	Mr Alec Hay	<a href="mailto:ahay@randwater.co.za">ahay@randwater.co.za</a>
				<a href="mailto:alechay@ecsa.co.za">alechay@ecsa.co.za</a>
Secretariat:	UK	(EC(UK))	Mr Paul Roux	<a href="mailto:paulroux@ecsa.co.za">paulroux@ecsa.co.za</a>
			Mr Chris Simpson	<a href="mailto:csimpson@engc.org.uk">csimpson@engc.org.uk</a>
			Dr Jim Birch	<a href="mailto:jbirch@engc.org.uk">jbirch@engc.org.uk</a>

#### Engineering Technologists Mobility Forum

Chair:	SA	(ECSA)	Mr Terry Stidworthy	<a href="mailto:stidworthyt@absamail.co.za">stidworthyt@absamail.co.za</a>
			Mr Paul Roux	<a href="mailto:paulroux@ecsa.co.za">paulroux@ecsa.co.za</a>
Secretariat:	UK	(EC(UK))	Mr Chris Simpson	<a href="mailto:csimpson@engc.org.uk">csimpson@engc.org.uk</a>
			Dr Jim Birch	<a href="mailto:jbirch@engc.org.uk">jbirch@engc.org.uk</a>

#### APEC Engineers Coordinating Committee

Chair:	Malaysia	(BoE)	Ir Dr S S Gue	<a href="mailto:ssgue@pc.jaring.my">ssgue@pc.jaring.my</a>
			Ir Dr Judin A Karim	<a href="mailto:judin@jkr.gov.my">judin@jkr.gov.my</a>
Secretariat:	Australia	(IEAust)	Mr Michael Bevan	<a href="mailto:chief@ieaust.org.au">chief@ieaust.org.au</a>
				<a href="mailto:mbevan@ieaust.org.au">mbevan@ieaust.org.au</a>

#### IEM ORGANISERS 2005

Hong Kong China	(HKIE)	Ir Dr Alex S K Chan	<a href="mailto:alexchan@atihk.com">alexchan@atihk.com</a>
		Albert Chow	<a href="mailto:adam@hkie.org.hk">adam@hkie.org.hk</a>
		Mrs Monica Yuen	<a href="mailto:ops@hkie.org.hk">ops@hkie.org.hk</a>