

出國報告（出國類別：參加國際會議）

我國技師加入國際工程師協定 經過與展望

服務機關：考選部

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摘要

國際工程聯盟(International Engineering Alliance, IEA)，每 2 年召開一次國際工程大會(International Engineering Meetings, IEM)，中間一年召開期中工作會(Seminar)。2009 年 6 月 16 日至 19 日，IEM 在日本京都召開大會，稱為 IEM 2009 Kyoto。在 IEA 所轄 6 個國際協定中，我國為亞太工程師(APEC Engineer)之正式會員、華盛頓協定(Washington Accord)之簽署國，以及工程師流動論壇(Engineers Mobility Forum, EMF)之準會員。

本次京都會議中，我國獲得工程師流通論壇審查通過，成為該國際工程組織的正式會員，國內登記有案之工程類技師將可申請認證取得「國際工程師」(International Engineer)之資格，我國技師人力的教考訓用制度也獲得各國代表肯定，取得 2011 年國際工程大會之主辦權。此外，2008 年新成立的首爾協定，也同時在 2009 年 6 月 20 日接受我國成為正式會員，並定於 2011 年一併在台北召開雙年會。

本報告依序說明國際工程聯盟管轄之 6 項國際協定，以及 2008 年新成立之首爾協定組織概況，我國加入國際工程聯盟 3 項國際協定之經過，最後就我國未來繼續努力之方向提出建議。

關鍵字：國際工程聯盟、國際工程大會、亞太工程師、華盛頓協定、工程師流動論壇、首爾協定

目 錄

壹、前 言	1
貳、國際工程會議管轄的六項協定	3
一、華盛頓協定	6
二、雪梨協定	12
三、都柏林協定	17
四、工程師流動論壇	21
五、亞太工程師協定	24
六、工程技術員流動論壇	27
參、首爾協定：第七項國際協定？	33
肆、我國加入國際工程師協定經過	37
一、加入亞太工程師協定	37
二、加入華盛頓協定	38
三、加入工程師流動論壇協定	39
伍、結語：未來展望	41
參考資料	43
附錄：	
1. 國際教育協定之《法規與程序》規定	49
2. 工程師流動論壇憲章	105
3. 亞太工程師手冊	161
4. 工程技術員流動論壇憲章	209
5. 國際工程聯盟各協定畢業生屬性與專業職能	269
6. 首爾協定	285

圖表目錄

圖 1	亞太工程師協定會員資格申請及授權程序	27
圖 2	首爾協定組織圖	34
表 1	IEM 所轄各國際協定參與國家及代表機構	4
表 2	6 個國際協定之主席、副主席、秘書	6
表 3	華盛頓協定簽署機構	9
表 4	雪梨協定簽署機構	13
表 5	都柏林協定簽署機構	18
表 6	工程師流動論壇協定會員	23
表 7	亞太工程師協定會員	25
表 8	工程技術員流動論壇協定會員	29
表 9	首爾協定簽署機構	35

我國技師加入國際工程師協定經過與展望

黃慶章 撰

壹、前言

國際工程聯盟(International Engineering Alliance, IEA)，每 2 年召開一次國際工程大會(International Engineering Meetings, IEM)，中間一年召開期中工作會(Seminar)。2009 年 6 月 16 日至 19 日，IEM 在日本京都召開大會，稱為 IEM 2009 Kyoto。

在 IEA 所轄 6 個國際協定中，我國為亞太工程師(APEC Engineer)之正式會員、華盛頓協定(Washington Accord)之簽署國，以及工程師流動論壇(Engineers Mobility Forum, EMF)之準會員，並擬在本次京都會議中爭取成為 EMF 正式會員，考選部應中華台北亞太工程師監督委員會莫主任委員若楫邀請，派員參加京都會議，俾就涉及國內技師考試制度之事項適時提供協助。

本次國際工程聯盟京都會議，計有 24 個國家、128 名代表參加。除會議前一日之歡迎儀式外，計召開 5 天：

1. 6 月 15 日：上午報到後，召開主席團大會(Governing Group Plenary Session)，教育暨流動論壇綜合會議(Combined Education and Mobility Forum)，下午為教育論壇(Education Forum)。

2. 6 月 16 日：上午為流動論壇(Mobility Forum)，下午為雪梨及都柏林協定綜合會議(Combined Sydney and Dublin Accord)。

3. 6 月 17 日：工程師流動論壇(Engineers Mobility Forum, EMF)。

4. 6 月 18 日：工程技術師流動論壇(Engineering Technologist Mobility Forum, ETMF)、華盛頓協定(Washington Accord)。

5. 6月19日：上午為亞太工程師協調委員會會議(APEC Engineer Coordinating Committee Meeting)，下午為主席團閉幕大會(Governing Group Closing Plenary)。

會後6月20日另於京都 Grand Prince Hotel 召開新成立有關電腦教育課程認證之首爾協定(Seoul Accord)，該協定已表明加入 IEA 之意願，且極可能併入 2011 年之 IEM 大會，但目前仍未正式納入 IEA，故僅邀中華工程教育學會(IEET)參加，並未邀請中華台北亞太工程師監督委員會與會。本次會議中，IEET 擬申請加入本協定，結果順利成為本協定之簽署機構。

本次 IEM 京都會議，有關我國之會議結論主要為：

1. 會議第一天 6 月 15 日，經中華台北代表團主動爭取，下次會議 IEM 2011 移師至台北舉行，時間暫定 2011 年 6 月 13 日至 17 日。(2010 年期中工作會在加拿大渥太華舉行。原擬爭取主辦 IEM 2011 之韓國，禮讓我國後，另向大會先行報備擬主辦 IEM 2013 會議。)

2. 會議第三天 6 月 17 日，EMF 正式宣布印度和中華台北成為全權會員(Full Member)。

3. 6 月 18 日、19 日之華盛頓協定、亞太工程師協調委員會會議，對我國所提各項工作報告均准予照案通過。

4. 中華台北亞太工程師監督委員會莫主任若楫獲選為亞太工程師監督委員會副主席(Deputy Chair)。

本報告依序說明國際工程聯盟管轄之 6 項國際協定，以及 2008 年新成立之首爾協定組織概況，我國加入國際工程聯盟 3 項國際協定之經過，最後就我國未來繼續努力之方向提出建議。

貳、國際工程會議管轄的六項協定

國際工程聯盟(International Engineering Alliance, IEA)每 2 年召開 1 次國際工程大會(International Engineering Meetings, IEM)，隔年也會舉辦期中工作會，其所管轄有關規範工程師學歷資格(qualifications)及專業職能(professional competence)相互認許的國際協定(international agreements)共有 6 個，各協定於雙年會中檢討其作業辦法、施行細則，檢視各協定成員之表現是否持續滿足協定之要求，並進行新進成員申請案的議決。每次會議皆由不同會員國主辦，最早曾由英國、澳洲、愛爾蘭、加拿大、馬來西亞及美國等國家主辦，2001 年由南非 ECSA 於 Thornybush 主辦、2003 年由紐西蘭 IPENZ 於 Rotorua 主辦、2005 年由香港 HKIE 於數碼港主辦，2007 年由美國 ABET 於 6 月 18 日至 6 月 22 日假華盛頓特區 Omni Shoreham Hotel 舉辦。2009 年由日本技術者教育認定機構及技術士會在京都舉辦。各個國家或經濟體加入成為各協定的會員或簽署國後，必須負責自己的經費成本；提出申請的團體必須證明其為該國或經濟體的代表身分。

為能與 IEM 各項國際協定之會員國同享平等之權利，積極參與國際協定已經成為國際工程教育趨勢，各項國際協定之會員國都有部分重疊之情況(請參見表 1)，許多新興國家(如俄羅斯)亦積極申請成為國際協定之正式會員，期望在實質相當之原則下，與其他會員國享受同等之權利，以提昇國內工程教育之水平。

IEA 所管轄的 6 個國際協定中，3 個協定涵蓋工程類高等教育資格的相互認許事項，包括：華盛頓協定、雪梨協定以及都柏林協定，皆是以「實質相當」(substantial equivalence)之原則負責工程教育之品質認證，係指凡為協定內會員國所通過認證之工程教育單位，皆為其他會員國所承認，由該單位所畢業或曾完成修習該學程之畢業生至其他會員國內，可與該會員國內通過認證單位之畢業生享有同等之權利。然而，此三項協定所認定之對象有所差異：

- 1.華盛頓協定(Washington Accord)最早於 1989 年首度簽署。本協定針對通常屬 4 年制的專業工程課程(professional engineering)學歷資格認證(accreditation)，

進行實質相當(substantial equivalence)的認許。

表 1 IEM 所轄各國際協定參與國家及代表機構

華盛頓協定	雪梨協定	都柏林協定
澳洲(澳洲工程師聯合會) 加拿大(加拿大工程師聯合會) 中華台北(中華工程教育學會) 中國香港(香港工程師學會) 愛爾蘭(愛爾蘭工程師聯合會) 日本(日本技術者教育認定機構) 韓國(韓國工程教育認證委員會) 馬來西亞(馬來西亞工程師委員會) 紐西蘭(紐西蘭專業工程師學會) 新加坡(新加坡工程師學會) 南非(南非工程聯合會) 英國(英國工程聯合會) 美國(工程及科技認證委員會)	澳洲(澳洲工程師聯合會) 加拿大(加拿大技術人員與技術員聯合會) 中國香港(香港工程師學會) 愛爾蘭(愛爾蘭工程師聯合會) 紐西蘭(紐西蘭專業工程師學會) 南非(南非工程聯合會) 英國(英國工程聯合會)	加拿大(加拿大技術人員與技術員聯合會) 愛爾蘭(愛爾蘭工程師聯合會) 南非(南非工程聯合會) 英國(英國工程聯合會)
工程師流動論壇	亞太工程師協定	工程技術員流動論壇
澳洲(澳洲工程師聯合會) 加拿大(加拿大工程師聯合會) 中華台北(中國工程師學會) 中國香港(香港工程師學會) 印度(印度工程師學會) 愛爾蘭(愛爾蘭工程師聯合會) 日本(日本技術士會) 韓國(韓國專業工程師協會) 馬來西亞(馬來西亞工程師學會) 紐西蘭(紐西蘭專業工程師學會) 新加坡(新加坡工程師學會) 南非(南非工程聯合會) 斯里蘭卡(斯里蘭卡工程師學會) 英國(英國工程聯合會) 美國(美國國際工程實務聯合會)	澳洲(澳洲工程師聯合會) 加拿大(加拿大工程師聯合會) 中華台北(中國工程師學會) 中國香港(香港工程師學會) 印尼(印尼工程師學會) 日本(日本技術士會) 韓國(韓國專業工程師協會) 馬來西亞(馬來西亞工程師學會) 紐西蘭(紐西蘭專業工程師學會) 菲律賓(專業管制委員會) 新加坡(新加坡工程師學會) 泰國(泰國工程師聯合會) 美國(美國國際工程實務聯合會)	加拿大(加拿大技術人員與技術員聯合會) 中國香港(香港工程師學會) 愛爾蘭(愛爾蘭工程師聯合會) 紐西蘭(紐西蘭專業工程師學會) 南非(南非工程聯合會) 英國(英國工程聯合會)

資料來源：作者自行整理。

2.雪梨協定(Sydney Accord)自 2001 年開始運作，本協定針對通常屬 3 年制的工程技術課程(engineering technology)學歷資格認證，進行實質對等的認許。

3.都柏林協定(Dublin Accord)自 2002 年開始運作，本協定針對通常屬 2 年制

的技術工程課程(technician engineering)學歷資格認證，提供實質對等認許的機制。

其他 3 項協定所認許的對象為執業中的專業工程師，涵蓋在實務工程師層級 (practising engineers) 的對等性認許議題，亦即，要求達到標竿基準的對象是個人，並非 WA 或其他協定所認定之學歷資格。這些協定同樣秉持實質相當之原則，其基本概念是，一個人在一個國家獲得認可為達到國際公認之職能標準 (standard of competence) 後，應該以最少量的評估(以在地知識為主)，使其取得其他協定會員國的註冊資格(registration)。各協定之會員代表定期召開會議，彼此交換資訊、建立各項作業辦法、施行細則與相關規範，制訂會員國的申請程序以及審查會員申請案等事宜。

1. 亞太工程師協定(APEC Engineer agreement)：此為其中最早的協定，自 1999 年開始運作。在 APEC 參與經濟體中，本協定可獲得政府支持。各經濟體的代表組織(representative organization)對於有意獲得認定為符合一般國際標準的技師，建立一份「註冊名錄」("register")。此類技師申請認定其職能時，其他經濟體應予以採計。本協定執行單位大多為技師團體，但其中可能包含政府代表；而且，如果協定內容有實質變更時，必須在政府層級的 APEC 協定中進行簽署。

2. 工程師流動論壇協定(Engineers Mobility Forum agreement, EMF)：自 2001 年開始運作，是由於華盛頓協定之會員國為推動彼此職業工程師資格的認可而簽訂的協定，其要求之職能標準與亞太工程師協定相同，但任一國家或經濟體均得參加，不限定於 APEC 國家，但多數會員國與亞太工程師協定重疊。本協定之會員大多為技師團體，未來工程師流動論壇將朝與亞太工程師協定整合之方向發展。

3. 工程技術員流動論壇協定(Engineering Technologist Mobility Forum agreement)：各參與經濟體於 2003 年簽署成立，由於雪梨協定之會員國為推動彼此工程技術員資格的認可而簽訂的協定，部分會員國與雪梨協定、都柏林協定重疊。本協定各會員同意開始建立一套工程技術員之相互認許架構(mutual

recognition scheme)。

最後，以上 6 個國際協定均屬國際工程聯盟所管轄，並每 2 年共同召開國際工程大會，雖然各設有主席、副主席，但 6 個協定的秘書均為同一人，請參見表 2。

表 2 6 個國際協定之主席、副主席、秘書

華盛頓協定	雪梨協定	都柏林協定
主席：美國工程及科技認證委員會 Dr Winfred M. Phillips 副主席：南非工程師聯合會 Dr Hu Hanrahan 秘書：紐西蘭專業工程師學會 Mr Paul Gardner	主席：香港工程師學會 Dr Alex Chan 副主席：澳洲工程師聯合會 Mr Robin King 秘書：紐西蘭專業工程師學會 Mr Paul Gardner	主席：愛爾蘭工程師聯合會 Mr Denis McGrath 副主席：英國工程聯合會 Mr George O'Neill 秘書：紐西蘭專業工程師學會 Mr Paul Gardner
工程師流動論壇	亞太工程師協定	工程技術員流動論壇
主席：紐西蘭專業工程師學會 Mr Basil Wakelin 副主席：韓國專業工程師協會 Mr Nam Ho 秘書：紐西蘭專業工程師學會 Mr Paul Gardner	主席：馬來西亞工程師學會 Dr Gue See Sew 副主席：中華台北中國工程師學會莫若楫先生 (Dr Za-Chieh Moh) 秘書：紐西蘭專業工程師學會 Mr Paul Gardner	主席：英國工程聯合會 Mr David Long 副主席：加拿大技術人員與技術員聯合會 Mr Yaroslav Zajac 秘書：紐西蘭專業工程師學會 Mr Paul Gardner

資料來源：作者自行整理。

一、華盛頓協定

華盛頓協定(Washington Accord, WA)簽署於 1989 年，當時美國、加拿大、澳洲、紐西蘭、英國及愛爾蘭等六個國家所屬的非政府工程教育認證組織，共同簽

署了一份協定，稱之為「華盛頓協定」，以相互承認彼此認證的工程科技學位。這份協定最主要精神是在「實質相當」(substantially equivalent)的前提下，讓各簽署會員得以互相承認其工程科技教育認證之標準與程序。換言之，以華盛頓協定為基礎，各會員組織之間所認證過的工程科技教育學位，在透過實質相當的認證規範及程序中，可以達到彼此所認定的水準。如此一來，不但可以讓各會員組織互相承認該國所授予的工程及科技學位與課程，進而讓畢業生能夠在這些會員國家中取得專業工程師證照與執業，以達到國際化的目標，同時更可以藉由工程科技教育認證的執行，提昇會員國家工程教育的品質，以因應科技快速發展的需求。

本協定現任主席由美國工程及科技認證委員會所屬之 Dr Winfred M. Phillips 擔任；副主席為南非工程師聯合會所屬之 Dr Hu Hanrahan，秘書為紐西蘭專業工程師學會所屬之 Mr Paul Gardner。本協定目前共有 13 個簽署國(signatory countries)、4 個準會員(參見表 1)。1989 年創始會員包括澳洲、加拿大、愛爾蘭、紐西蘭、英國、美國等 6 個簽署國，1995 年加入中國香港，1999 年加入南非，2005 年加入日本，2006 年加入新加坡，2007 年(6 月)加入中華台北、韓國，今(2009)年馬來西亞加入成為第 13 個簽署國。此外，目前計有 4 個具有準會員身分(provisional status)的組織，這些組織的學歷資格認證或認許程序，被視為具有發展適合於本協定目的之潛能；這些組織正進一步發展認證或認許程序，以前適時取得簽署國的地位；不過，準會員組織所認證或認許的學歷資格，仍未被各簽署國所認許。

華盛頓協定為各個簽署國中認證專業工程學歷課程之負責機構所組成的國際協定。對於這些機構所證認的課程，華盛頓協定認定為實質相當；對於任一簽署會員認證課程的畢業生，華盛頓協定建議其他會員應認許為符合進入工程實務所需之學歷條件。本協定之簽署機構(signatories)具有參與之完整權利；各簽署國自行負責建立其境內之華盛頓協定認許課程名冊，並公布於該國代表機構之網頁中；對於其他簽署國所認證或認許之學歷資格，每一簽署國應認許其與本國之認證或認許資格實質相當。

華盛頓協定認許的對象是專業工程大學學歷 (professional engineering undergraduate degrees)，不包括工程技術或碩博士學歷。部分華盛頓協定簽署機構公布的認證課程包括非工程課程的技術學位，但這應該是該機構另外加入雪梨等技術課程認證協定所致，華盛頓協定各簽署機構實際上僅認許其中的工程課程。

本協定適用範圍可分時間、空間 2 種面向：

1. 僅相互認許在加入簽署之日以後的認證學歷：通常，各簽署機構只接受另一特定簽署國獲准加入協定之日以後所取得的認證學歷。亦即，創始的 6 個簽署機構(澳洲 IEAust、加拿大 CCPE、愛爾蘭 IEI、紐西蘭 IPENZ、英國 EngC 及美國 ABET)僅接受彼此在 1989 年(含)以後認證的學歷。香港 HKIE、南非 ECSA、日本 JABEE 及新加坡 IES 所認證的學歷，分別自 1995、1999、2005 及 2006 年開始予以接受，亦即從這些認證機構獲准成為本協定簽署機構之時間起算。至於在這些時點以前所取得的學歷，各簽署國則以個案方式進行評估，各簽署國處理原則並不一致。反之，在成為本協定簽署國之後所取得的學歷，如非本協定所認許之課程，個人學歷並不能逕行申請認證；因為本協定僅認證課程，並非個人學歷。

2. 只要求相互認許簽署國境內之認證學歷：取得本協定簽署國以外國家的工程學歷，即使被本協定任一簽署機構認許為與其境內認證之工程學歷實質相當，並不保證可被本協定其他簽署機構所認許。華盛頓協定僅適用於簽署機構在其所屬國境或領土疆界內所進行的課程認證；簽署機構並無義務要認許其他簽署機關認證或認許為實質相當的境外課程。

在一個簽署國中完成工程課程或取得學位，並不能自動取得華盛頓協定任一簽署國的工程師執業資格認許。華盛頓協定並未直接、也未完整涵蓋專業工程師的執照或註冊，不過，執照核發及註冊資格中的學歷條件，則是本協定的認許對象。各簽署國的執照核發程序不同，分別有其全國性及地域性的執照核發規定，以及對持有國外學歷者的特殊要求。事實上，本協定僅認許在個別簽署國中取得的大學學歷，持國外學歷者仍由各簽署國之權責機構自行評估是否相當。

表 3 華盛頓協定簽署機構

壹、簽署國

編號	國家別	代 表 機 構	加入年別
1	澳洲	澳洲工程師聯合會(Engineers Australia)	1989
2	加拿大	加拿大工程師聯合會(Engineers Canada)	1989
3	中華台北	中華工程教育學會(Institute of Engineering Education Taiwan, IEET)	2007
4	中國香港	香港工程師學會(The Hong Kong Institution of Engineers)	1995
5	愛爾蘭	愛爾蘭工程師聯合會(Engineers Ireland)	1989
6	日本	日本技術者教育認定機構(Japan Accreditation Board for Engineering Education)	2005
7	韓國	韓國工程教育認證委員會(Accreditation Board for Engineering Education of Korea)	2007
8	馬來西亞	馬來西亞工程師委員會(Board of Engineers Malaysia)	2009
9	紐西蘭	紐西蘭專業工程師學會(Institution of Professional Engineers NZ)	1989
10	新加坡	新加坡工程師學會(Institution of Engineers Singapore)	2006
11	南非	南非工程聯合會(Engineering Council of South Africa)	1999
12	英國	英國工程聯合會(Engineering Council UK)	1989
13	美國	工程及科技認證委員會(Accreditation Board for Engineering and Technology)	1989

貳、準會員

編號	國家別	代 表 機 構
1	德國	德國工程與資訊教學課程認證中心(German Accreditation Agency for Study Programs in Engineering and Informatics)
2	印度	全印度科技教育認證全國聯合會(National Board of Accreditation of All India Council for Technical Education)
3	俄羅斯	俄羅斯工程教育協會(Russian Association for Engineering Education)
4	斯里蘭卡	斯里蘭卡工程師學會(Institution of Engineers Sri Lanka)

資料來源：IEA(2009)。

欲申請加入為華盛頓協定之正式會員，第一階段須先獲得三分之二以上正式會員的支持成為準會員，再進入第二階段接受所有會員組織針對認證作業流程與各項辦法文件進行審查與實地訪評後，經過全體會員的一致同意，方得加入為正式會員。申請成為簽署機構的條件包括：

1.在準會員身分期間，申請機構必須開放讓所有簽署機構得以自費方式前往參訪，但這部分並非審核程序的一項條件，也非屬審核程序的一環。

2.如同《法規與程序》第 2.2 節所規定，申請者提出要求後，委員會將指派 3 個簽署機構為審核員(Reviewers)，負責檢視申請者之制度並提出報告；如認為申請者已符合成為申請機構之各項條件時，並負責向各簽署機構推薦。

3.審核員將以《程序》A 規定對於既有簽署機構進行定期審核的類似方式，對申請者之各項制度進行評估。

4.然而，除了《程序》中所設定之各項標準之外，審核員還必須考量：(1) 認證或認許制度是否已經完整建立(通常至少要有一個課程已經通過一個完整的認證或認許循環，並已完成再評估)。(2)提出的課程應有極大比例已經依制度規定完成評估。(3)具準會員身分之組織可以尋求導師及委員會指導，決定在其準會員身分期間何時可以申請接受審核。

5.審核員必須確認觀察訪視到具代表性的跨系科眾多學術機構，並實際觀察到認證或認許程序中一定數量的決定。

6.第 C 節前段已敘明一個認證或認許制度應有的各項特性，以及認證或認許的各項標準，包括工程畢業生應有的各項屬性。如果，一個申請者的制度在書面上與本協定之要求已經實質相當時，對制度運作的檢測將以下列方式進行：

(1)認證或認許制度的運作方法及手段，是否與其他簽署機構之制度相當？

成就指標或關鍵屬性包括：a.在其任務架構中對於學術品質有一明確界定。b.非屬政府部門(non-governmental)。c.認證或認許課程所屬之學術機構，必須擁有授與高等教育學歷或學術資格的合法權利。d.備有各學術機構及公眾可以取得的正式、書面政策及程序規定。e.設有由尋求認證或認

許之學術機構或課程自行評估的程序。f.設有由包含同儕所組成之參訪小組進行的現場審核機制。g.展現不受上級組織或機構干預，在其政策設定及決策過程中具獨立性。h.印製公布或讓公眾可以取得認證或認許課程的名冊。i.對已認證或認許之課程要求定期進行審核。

(2)該組織有無一個明確界定且對外公開的行動範圍(scope of activity)? 成就指標或關鍵屬性包括(依據 2007 年 8 月 15 日更新之 IEM 華盛頓會議《法規及程序》49): a.認許的是何種學位課程或資格(大學、研究所)? b.有無地理範圍限制? c.認許那些科系(工程、工程技術、電腦等等)?

(3)該組織能否展現在決策過程中運用合適及公平的程序? 成就指標或關鍵屬性包括: a.該組織會不會受到各類專業組織、協會、特殊利益團體或政府的干預? b.在負責認證或認許的組織之中，負責制定認證或認許政策之人，與負責作成認證或認許決定之人，二者有無區分? c.備有課程評估之書面準則、標準及程序規範，包括(a)公眾可否取得?(b)有無提供公眾評論或審核的程序? d.是否根據文件規範進行認證參訪。e.對不同學術機構、課程及年份，均以一致及公平的方式應用各類準則及標準。f.提供給學術機構一份書面報告，並分別指明認證或認許所要求的各類行動，以及針對學術課程未來改進所建議的各類行動。g.參訪報告應提出足夠的詳細資料，以利認證或認許委員會(Accreditation/Recognition Board)或其相當機構作成完整決定，包括認證特定的課程，或附加條件。h.委員會應展現能夠根據長遠對工程界有利的考量作出困難決定的能力。i.設有針對對申請人不利的認證或認許決定提出申訴的程序。j.對於包括參訪小組、認證或認許決定者或決策者在內，所有參與認證或認許過程的人員，設有一套明確的利益迴避政策。k.這些程序能否以敏銳的方式因應非常情況，且在實作中展現因應能力。

(4)該組織能有持續辦理認證或認許活動之能力? 成就指標或關鍵屬性包括: a.擁有足夠的人力及財力資源以執行及維繫一套有效的認證或認許程序，包括(a)該組織有無財力來源?(b)財力存活性之情況? b.備有一套甄

募、考選、訓練及考評課程評估員及參訪員的有效的程序，包括(a)評估員如何考選？(b)有無書面的訓練教材？(c)考評程序為何？(d)參訪小組候選名冊有無包含工程執業人員及學術界人士？c.有無定期自我審核，以改進其標準、準則、政策及程序。

(5)操作手冊有無強調認證或認許的核心標準？成就指標或關鍵屬性包括(根據 2007 年 8 月 15 日更新之 IEM 華盛頓會議《法規及程序》50)：a.以讓相關教育提供者可以清楚明瞭之方式，記載其要求之畢業生各項應備屬性，且這些屬性與本協定之範例實質相當。b.這些標準如何融入各種程序之中，以深入評估各課程的成果，以及如何確保維持這些標準。

(6)最後，通盤性的檢測項目是，由既有之各簽署機構經實地觀察及互動予以評估確認的成果水準，是否符合本協定之要求。

二、雪梨協定

雪梨協定(Sydney Accord, SA)，是源自華盛頓協定，針對工程技術員(Engineering Technologists or Incorporated Engineers)發展出一個稱為雪梨協定的類似協定，於 2001 年 6 月完成簽署。現任主席為香港工程師學會之 Dr Alex Chan，副主席為澳洲工程師聯合會之 Mr Robin King，秘書為紐西蘭專業工程師學會之 Mr Paul Gardner。

簽署機構(Signatories)享有參加本協定的完整權利，其他簽署機構所認證或認許的學歷資格，可被任一簽署機關認許為與其轄區內獲認證或獲認許之資格實質相當。

具準會員身分之組織(organisations holding provisional status)，被視為其現有之學歷資格認許程序具備符合本協定之可能性，這些組織將進一步發展這些程序，俾依適當程序取得簽署機構之身分；對於準會員組織所認證或認許之學歷資格，簽署機構並未予以認許。

表 4 雪梨協定簽署機構

壹、簽署國

編號	國家別	代表機構	加入年別
1	澳洲	澳洲工程師聯合會(Engineers Australia, EA)	2001
2	加拿大	加拿大技術人員與技術員聯合會(Canadian Council of Technicians and Technologists, CCTT)	2001
3	中國香港	香港工程師學會(The Hong Kong Institution of Engineers, HKIE)	2001
4	愛爾蘭	愛爾蘭工程師聯合會(Engineers Ireland, EngIRE)	2001
5	紐西蘭	紐西蘭專業工程師學會(Institution of Professional Engineers NZ, IPENZ)	2001
6	南非	南非工程聯合會(Engineering Council of South Africa, ECSA)	2001
7	英國	英國工程聯合會(Engineering Council UK, ECUK)	2001

貳、準會員

編號	國家別	代表機構
1	美國	工程及科技認證委員會(Accreditation Board for Engineering and Technology)

資料來源：IEA(2009)。

雪梨協定是由各簽署國(signatory countries)中負責認證專業工程學位課程(professional engineering degree programs)的機構所簽署的協定。本協定對於這些機構所認證的課程認許為實質相當，並建議對於任一簽署國認證課程的畢業生，其他國家應認許為符合取得工程執業資格所要求的學歷條件。雪梨協定涵蓋工程技術(Engineering technology)。依雪梨協定認許的課程名錄，可由簽署國蒐尋。

一般來說，各簽署機構僅接受特定簽署機構獲准加入協定之日起所認證的學位。因此，創始簽署機構接受彼此在 2001 年以後認證的學位。對於前述時間以前的學位，各簽署國以個案方式評估其學位，對於個案，可能有特別的政策規範。依雪梨協定，如果一個課程未獲認許，其所屬個別的學位不能申請認許。

雪梨協定僅適用於簽署機構在其所屬國家或領土境內所實施的認證課程。簽署機構並無義務認許其他簽署機構認證或認許為實質相當的境外課程。因此，如果持有一個非雪梨協定簽署國的工程技術學位，卻獲得一個雪梨協定簽署機構認許其學位與該簽署國內認證之工程技術學位實質相當，這並不能保證該學位也會被其他雪梨協定簽署機構認許。

雪梨協定各簽署機構僅認許各該機構認證之工程技術課程，並不認許技術學位(technology degrees)；目前都柏林協定提供技術學位的相互認許。不過，雪梨協定的個別簽署機構可能參與都柏林協定或其他技術協定，並在其網頁中公開相關資訊，因而其認證的課程名冊也可能包括非工程課程(non-engineering programs)。

在一個簽署國中完成工程技術課程學位，並不能自動取得雪梨協定任一簽署國的執照認許。雪梨協定並未直接涵蓋專業工程師的執照核發或登記事項。不過，核發執照或登記條件之一的學歷資格，確屬本協定之涵蓋範圍。各簽署國之核發執照程序互有差異，申請人應向申請執照之個別簽署國洽詢，以瞭解該國及其地區性執照法規，以及對於持有外國學歷者之特殊要求。

此外，本協定僅認許在任一簽署國取得之大學學歷，具備另一個簽署國的認證碩士學歷，並不保證簽署機構會認許其境外大學學歷。許多簽署國設有評估中心，負責外國課程之評估與認許；相關作業程序之資訊均刊登在其網站上。持有外國碩士學歷者，應向個別簽署機構洽詢其如何評估境外課程之對等性。

申請成為一個簽署機構(Signatory)的程序，與華盛頓協定相同：

1.在準會員身分期間，申請機構必須開放讓所有簽署機構得以自費方式前往參訪，但這部分並非審核程序的一項條件，也非屬審核程序的一環。

2.如同《法規與程序》第 2.2 節所規定，申請者提出要求後，委員會將指派 3 個簽署機構為審核員(Reviewers)，負責檢視申請者之制度並提出報告；如認為申請者已符合成為申請機構之各項條件時，並負責向各簽署機構推薦。

3.審核員將以《程序》A 規定對於既有簽署機構進行定期審核的類似方式，對申請者之各項制度進行評估。

4.然而，除了《程序》中所設定之各項標準之外，審核員還必須考量：(1) 認證或認許制度是否已經完整建立(通常至少要有一個課程已經通過一個完整的認證或認許循環，並已完成再評估)。(2)提出的課程應有極大比例已經依制度規定完成評估。(3)具準會員身會之組織可以尋求導師及委員會指導，決定在其準會員身分期間何時可以申請接受審核。

5.審核員必須確認觀察訪視到具代表性的跨系科眾多學術機構，並實際觀察到認證或認許程序中一定數量的決定。

6.第 C 節前段已敘明一個認證或認許制度應有的各項特性，以及認證或認許的各項標準，包括工程畢業生應有的各項屬性。如果，一個申請者的制度在書面上與本協定之要求已經實質相當時，對制度運作的檢測將以下列方式進行：

(1)認證或認許制度的運作方法及手段，是否與其他簽署機構之制度相當？

成就指標或關鍵屬性包括：a.在其任務架構中對於學術品質有一明確界定。b.非屬政府部門(non-governmental)。c.認證或認許課程所屬之學術機構，必須擁有授與高等教育學歷或學術資格的合法權利。d.備有各學術機構及公眾可以取得的正式、書面政策及程序規定。e.設有由尋求認證或認許之學術機構或課程自行評估的程序。f.設有由包含同儕所組成之參訪小組進行的現場審核機制。g.展現不受上級組織或機構干預，在其政策設定及決策過程中具獨立性。h.印製公布或讓公眾可以取得認證或認許課程的名冊。i.對已認證或認許之課程要求定期進行審核。

(2)該組織有無一個明確界定且對外公開的行動範圍(scope of activity)？成就

指標或關鍵屬性包括(依據 2007 年 8 月 15 日更新之 IEM 華盛頓會議《法規及程序》49)：a.認許的是何種學位課程或資格(大學、研究所)？b.有無地理範圍限制？c.認許那些科系(工程、工程技術、電腦等等)？

(3)該組織能否展現在決策過程中運用合適及公平的程序？成就指標或關鍵

屬性包括：a.該組織會不會受到各類專業組織、協會、特殊利益團體或政府的干預？b.在負責認證或認許的組織之中，負責制定認證或認許政策之人，與負責作成認證或認許決定之人，二者有無區分？c.備有課程評估之

書面準則、標準及程序規範，包括(a)公眾可否取得？(b)有無提供公眾評論或審核的程序？d.是否根據文件規範進行認證參訪。e.對不同學術機構、課程及年份，均以一致及公平的方式應用各類準則及標準。f.提供給學術機構一份書面報告，並分別指明認證或認許所要求的各類行動，以及針對學術課程未來改進所建議的各類行動。g.參訪報告應提出足夠的詳細資料，以利認證或認許委員會(Accreditation/Recognition Board)或其相當機構作成完整決定，包括認證特定的課程，或附加條件。h.委員會應展現能夠根據長遠對工程界有利的考量作出困難決定的能力。i.設有針對對申請人不利的認證或認許決定提出申訴的程序。j.對於包括參訪小組、認證或認許決定者或決策者在內，所有參與認證或認許過程的人員，設有一套明確的利益迴避政策。k.這些程序能否以敏銳的方式因應非常情況，且在實作中展現因應能力。

(4)該組織能有持續辦理認證或認許活動之能力？成就指標或關鍵屬性包括：a.擁有足夠的人力及財力資源以執行及維繫一套有效的認證或認許程序，包括(a)該組織有無財力來源？(b)財力存活性之情況？b.備有一套甄募、考選、訓練及考評課程評估員及參訪員的有效的程序，包括(a)評估員如何考選？(b)有無書面的訓練教材？(c)考評程序為何？(d)參訪小組候選名冊有無包含工程執業人員及學術界人士？c.有無定期自我審核，以改進其標準、準則、政策及程序。

(5)操作手冊有無強調認證或認許的核心標準？成就指標或關鍵屬性包括(根據 2007 年 8 月 15 日更新之 IEM 華盛頓會議《法規及程序》50)：a.以讓相關教育提供者可以清楚明瞭之方式，記載其要求之畢業生各項應備屬性，且這些屬性與本協定之範例實質相當。b.這些標準如何融入各種程序之中，以深入評估各課程的成果，以及如何確保維持這些標準。

(6)最後，通盤性的檢測項目是，由既有之各簽署機構經實地觀察及互動予以評估確認的成果水準，是否符合本協定之要求。

三、都柏林協定

都柏林協定(Dublin Accord)是對工程技術人員(Engineering Technician)學歷資格進行國際認許的協定。

2002 年 5 月，英國、愛爾蘭、南非及加拿大的全國性工程組織簽署了一個協定，相互認許這 4 個國家作為授與工程技術人員職銜之基礎的學歷資格。其後，另 2 個經濟體取得準會員身分，並積極爭取簽署機構(signatory)的身分：紐西蘭及美國。現任主席為愛爾蘭工程師聯合會之 Mr Denis McGrath，副主席為英國工程聯合會之 Mr George O'Neill，秘書為紐西蘭專業工程師學會之 Mr Paul Gardner。

簽署機構享有參與本協定的完整權利；由其他簽署機構所認證或認許之學歷資格，會被每一個簽署機構認許為與其轄區內認證或認許之資格實質相當。

具準會員身分之組織(organisations holding provisional status)被視為具有未來有可能符合本協定目的之學歷資格認證或認許程序；這些組織將繼續發展這些程序，以期適時取得簽署機構之身分；對於準會員組織所認證或認許之資格，簽署機構並不會予以認許。

所謂都柏林協定，是由各簽署國中負責認證工程技術人員課程(engineering technician programs)之機構所簽署之協定。對於這些機構所認證的各個課程，本協定均認許為實質相當，並建議對於任一簽署國認證課程的畢業生，其他國家應認許為達到工程執業資格之學術資格條件。根據都柏林協定認許之現有課程名冊，可在各簽署國查閱。

通常各簽署機構只接受在簽署機構加入本協定之後所認證之學歷資格。因此，各創始簽署機構接受本協定簽署日以後彼此所認證之學歷資格。對於在此之前的學歷資格，各簽署國是以個案方式評估其資格；各簽署國在此部分有不同的政策。另一方面，都柏林協定僅認許課程，個人學歷資格不能逕向都柏林協定申請認許。

表 5 都柏林協定簽署機構

壹、簽署國

編號	國家別	代表機構	加入年別
1	加拿大	加拿大技術人員與技術員聯合會(Canadian Council of Technicians and Technologists, CCTT)	2002
2	愛爾蘭	愛爾蘭工程師聯合會(Engineers Ireland, EngIRE)	2002
3	南非	南非工程聯合會(Engineering Council of South Africa, ECSA)	2002
4	英國	英國工程聯合會(Engineering Council UK, ECUK)	2002

貳、準會員

編號	國家別	代表機構
1	紐西蘭	紐西蘭專業工程師學會(Institution of Professional Engineers NZ, 2006)
2	美國	工程及科技認證委員會(Accreditation Board for Engineering and Technology)

資料來源：IEA(2009)。

都柏林協定只適用於各簽署機構在其所屬國家或領土疆界內所辦理之認證，各簽署機構並無義務必須認許另一簽署機構認證或認許為實質相當之外國課程。因此，如果具備非都柏林協定簽署國的工程技術人員學歷資格，縱使被某一都柏林協定簽署機構認許為與該簽署國認證之工程技術學歷資格實質相當，該資格仍「未必」可被其他都柏林協定簽署機構所認許。

雖然都柏林協定各簽署機構只認許各機構認證之工程技術人員課程，但某些都柏林協定簽署機構可能參與其他技術人員協定，故其所張貼公布的認證課程名單也可能包含非工程課程。

都柏林協定並未直接或完整涵蓋專業工程師的核發執照或登記事項，而僅涵蓋核發執照或登記的資格條件之一的學歷條件；因此，在一個簽署國完成一項工程技術人員課程或學歷資格後，並不保證可以在都柏林協定的任一簽署國自動取

得執照認許。各簽署國的核發執照程序均有不同，個別簽署國對於申請執照有其全國性及地區性執照規定，對持有外國學歷資格者也有特別要求事項。

申請成爲一個簽署機構之程序，與華盛頓協定及雪梨協定相同：

1.在準會員身分期間，申請機構必須開放讓所有簽署機構得以自費方式前往參訪，但這部分並非審核程序的一項條件，也非屬審核程序的一環。

2.如同《法規與程序》第 2.2 節所規定，申請者提出要求後，委員會將指派 3 個簽署機構爲審核員(Reviewers)，負責檢視申請者之制度並提出報告；如認爲申請者已符合成爲申請機構之各項條件時，並負責向各簽署機構推薦。

3.審核員將以《程序》A 規定對於既有簽署機構進行定期審核的類似方式，對申請者之各項制度進行評估。

4.然而，除了《程序》中所設定之各項標準之外，審核員還必須考量：(1) 認證或認許制度是否已經完整建立(通常至少要有一個課程已經通過一個完整的認證或認許循環，並已完成再評估)。(2)提出的課程應有極大比例已經依制度規定完成評估。(3)具準會員身分之組織可以尋求導師及委員會指導，決定在其準會員身分期間何時可以申請接受審核。

5.審核員必須確認觀察訪視到具代表性的跨系科眾多學術機構，並實際觀察到認證或認許程序中一定數量的決定。

6.第 C 節前段已敘明一個認證或認許制度應有的各項特性，以及認證或認許的各項標準，包括工程畢業生應有的各項屬性。如果，一個申請者的制度在書面上與本協定之要求已經實質相當時，對制度運作的檢測將以下列方式進行：

(1)認證或認許制度的運作方法及手段，是否與其他簽署機構之制度相當？

成就指標或關鍵屬性包括：a.在其任務架構中對於學術品質有一明確界定。b.非屬政府部門(non-governmental)。c.認證或認許課程所屬之學術機構，必須擁有授與高等教育學歷或學術資格的合法權利。d.備有各學術機構及公眾可以取得的正式、書面政策及程序規定。e.設有由尋求認證或認許之學術機構或課程自行評估的程序。f.設有由包含同儕所組成之參訪小組進行的現場審核機制。g.展現不受上級組織或機構干預，在其政策設定

及決策過程中具獨立性。h.印製公布或讓公眾可以取得認證或認許課程的名冊。i.對已認證或認許之課程要求定期進行審核。

(2)該組織有無一個明確界定且對外公開的行動範圍(scope of activity)？成就指標或關鍵屬性包括(依據 2007 年 8 月 15 日更新之 IEM 華盛頓會議《法規及程序》49)：a.認許的是何種學位課程或資格(大學、研究所)？b.有無地理範圍限制？c.認許那些科系(工程、工程技術、電腦等等)？

(3)該組織能否展現在決策過程中運用合適及公平的程序？成就指標或關鍵屬性包括：a.該組織會不會受到各類專業組織、協會、特殊利益團體或政府的干預？b.在負責認證或認許的組織之中，負責制定認證或認許政策之人，與負責作成認證或認許決定之人，二者有無區分？c.備有課程評估之書面準則、標準及程序規範，包括(a)公眾可否取得？(b)有無提供公眾評論或審核的程序？d.是否根據文件規範進行認證參訪。e.對不同學術機構、課程及年份，均以一致及公平的方式應用各類準則及標準。f.提供給學術機構一份書面報告，並分別指明認證或認許所要求的各類行動，以及針對學術課程未來改進所建議的各類行動。g.參訪報告應提出足夠的詳細資料，以利認證或認許委員會(Accreditation/Recognition Board)或其相當機構作成完整決定，包括認證特定的課程，或附加條件。h.委員會應展現能夠根據長遠對工程界有利的考量作出困難決定的能力。i.設有針對對申請人不利的認證或認許決定提出申訴的程序。j.對於包括參訪小組、認證或認許決定者或決策者在內，所有參與認證或認許過程的人員，設有一套明確的利益迴避政策。k.這些程序能否以敏銳的方式因應非常情況，且在實作中展現因應能力。

(4)該組織能有持續辦理認證或認許活動之能力？成就指標或關鍵屬性包括：a.擁有足夠的人力及財力資源以執行及維繫一套有效的認證或認許程序，包括(a)該組織有無財力來源？(b)財力存活性之情況？b.備有一套甄募、考選、訓練及考評課程評估員及參訪員的有效的程序，包括(a)評估員如何考選？(b)有無書面的訓練教材？(c)考評程序為何？(d)參訪小組候選

名冊有無包含工程執業人員及學術界人士？c.有無定期自我審核，以改進其標準、準則、政策及程序。

(5)操作手冊有無強調認證或認許的核心標準？成就指標或關鍵屬性包括(根據 2007 年 8 月 15 日更新之 IEM 華盛頓會議《法規及程序》50)：a.以讓相關教育提供者可以清楚明瞭之方式，記載其要求之畢業生各項應備屬性，且這些屬性與本協定之範例實質相當。b.這些標準如何融入各種程序之中，以深入評估各課程的成果，以及如何確保維持這些標準。

(6)最後，通盤性的檢測項目是，由既有之各簽署機構經實地觀察及互動予以評估確認的成果水準，是否符合本協定之要求。

四、工程師流動論壇

工程師流動論壇(Engineers Mobility Forum)協定，是各會員轄區內之工程組織彼此簽署的多國協定(multi-national agreement)，以創設專業工程職能國際標準未來建立之架構，俾其後授權每一會員組織成立此一國際專業工程師註冊名錄的一個支部。本協定現任主席為紐西蘭專業工程師學會之 Mr Basil Wakelin，副主席為韓國專業工程師協會之 Mr Nam Ho，秘書為紐西蘭專業工程師學會之 Mr Paul Gardner。

本協定適用的是與亞太工程師協定相同的職能標準。絕大多數的亞太協定會員，同時也是 EMF 協定的會員，但後者是真正全球性的組織，故而像英國、愛爾蘭及南非等國家，雖然不能加入亞太協定，卻是 EMF 的會員。

會員(Members)享有參與本協定的完整權力，每一會員操作國際專業工程師(International Professional Engineer, IntPE)註冊名錄的一個國家支部(national section)；在這些國家支部的註冊者，向另一會員轄區內尋求註冊或發給執照時，可以獲得承認(credit)。目前計有 15 個會員，其中馬來西亞與紐西蘭設有線上註冊系統(Online Registers)。

準會員(Provisional Members)被視為已具備有朝向相當於正式會員發展之職能評估系統；但目前並未操作國際專業工程師註冊名錄的國家支部。

申請成為 EMF 會員之組織，申請程序為：

個別工程師欲成為註冊國際專業工程師(Registered International Professional Engineer, IntPE)者，應向其註冊國家之簽署組織接洽。

成為 EMF 全權會員(Full Member)的程序，應分 2 階段完成：

第一階段(Stage One)

首先，該組織應先申請成為準會員(Provisional Member)。準會員是在所屬經濟體中已成立或正在成立專業合格工程師註冊名錄，並希望申請成為 EMF 全權會員的組織。

然而，獲准成為準會員，並不意謂、也不能據以主張該組織的註冊名錄有任何一部分符合全權會員的要求。

任一組織欲成為準會員者，應由 2 個全權會員以書面推薦，經 EMF 會員大會(General Meeting)全權會員至少三分之二同意，始取得准會員身分。

第二階段(Stage Two)

全權會員為負責註冊專業合格工程師(professionally qualified engineers)的組織，這些工程師不僅通過評估取得在該經濟體獨立執業的資格，且其資格必須奠基於與華盛頓協定會員組織認證之工程學歷畢業生實質相當的學術成就，該組織並必須獲得臨時或完全的授權(interim or full authorization)得以維護國際專業工程師註冊名錄的一個支部。

由準會員轉換至全權會員會時，除了由其他全權會員指導協助所有轉換程序外，特別要求準會員應草擬提出一份評估報告(Assessment Statement)。準會員提出的評估報告，除列出現行國內註冊的程序及標準外，並應列出未來核准個別申請人加入國際專業工程師註冊名錄該國支部的擬採行程序及標準。

評估報告應確認符合 EMF 國際註冊協調委員會(EMF International Register Co-Ordinating Committee)所要求的各項標準。這些條件包括：

表 6 工程師流動論壇協定會員

壹、會員

編號	國家別	代表機構	加入年別
1	澳洲	澳洲工程師聯合會(Engineers Australia)	1997
2	加拿大	加拿大工程師聯合會(Engineers Canada)	1997
3	中華台北	中國工程師學會(Chinese Institute of Engineers)	2009
4	中國香港	香港工程師學會(The Hong Kong Institution of Engineers)	1997
5	印度	印度工程師學會(Institution of Engineers India)	2009
6	愛爾蘭	愛爾蘭工程師聯合會(Engineers Ireland)	1997
7	日本	日本技術士會(Institution of Professional Engineers Japan)	1999
8	韓國	韓國專業工程師協會(Korean Professional Engineers Association)	2000
9	馬來西亞	馬來西亞工程師學會(Institution of Engineers Malaysia)	1999
10	紐西蘭	紐西蘭專業工程師學會(Institution of Professional Engineers NZ)	1997
11	新加坡	新加坡工程師學會(Institution of Engineers Singapore)	2007
12	南非	南非工程聯合會(Engineering Council of South Africa)	1997
13	斯里蘭卡	斯里蘭卡工程師學會(Institution of Engineers Sri Lanka)	2007
14	英國	英國工程聯合會(Engineering Council UK)	1997
15	美國	美國國際工程實務聯合會(United States Council for International Engineering Practice)	1997

貳、準會員

編號	國家別	代表機構
1	孟加拉	孟加拉專業工程師註冊委員會(Bangladesh Professional Engineers, Registration Board)

資料來源：IEA(2009)。

1.各全權會員同意設置及維護一個分權化國際專業工程師註冊名錄並核准登錄該註冊名錄的前提是，登錄的實作者必須能展現他們已經：(a)達到該註冊名錄入門標準的學術成就一般水準，該標準與具備華盛頓協定全權會員身分、並依華盛頓協定運作的組織所認證之工程學位畢業生必須實質相當。(b)經所屬經濟體評估為具備獨立執業之資格。(c)具有畢業後至少 7 年實務經驗。(d)至少 2 年負責重要工程業務。(e)維持成效優良的持續專業發展(continuing professional development)。

2.申請人必須同意遵守其執業所在之各經濟體所建立及施行的專業行為準則(codes of professional conduct)。這些準則通常要求執業工程師將社區的健康、安全及福祉，優先置於他們對顧客及同業的職責之上；要求僅在其職能領域內執業；及要求他們在遇到必須有其他專業協助執行一項計畫或專案的情況時，應向其顧客提出建議。

3.申請人並必須同意對其行為獨立負責，其負責的方式包括遵守執業所在地經濟體之執照或登記權責主管機關所設定之各種執業條件，以及透過司法程序予以課責。申請登記時，申請人即授權各個全權會員組織可以在必要時交換此類個人資訊，以確保個別工程師在其登記或領取執照執業的經濟體中受到行政罰或刑罰的紀錄，可以作為決定其繼續登記的參據，並在登記名錄中予以適當記錄。

4.核准「暫時授權」(interim authorization)得以發展及維護國際專業工程師登記名錄的一個支部，必須先通過對申請機構提出之各種程序及標準的全面檢視，再經 EMF 國際協調委員會會員大會投票，獲得全權會員三分之二以上同意。

五、亞太工程師協定

在許多亞太經合會(Asia Pacific Economic Cooperation, APEC)國家之間，訂有一個以認許工程專業職能「實質相當」為目的的協定，稱為亞太工程師(APEC Engineer)協定。APEC 國家可申請成為本協定之會員，只要他們能展現設有一套

制度，使工程師的職能可以依照亞太工程師協定所設定的國際共識標準進行評估。現任主席(Chair)為馬來西亞工程師學會之 Dr Gue See Sew；副主席(Deputy Chair)為中華台北中國工程師學會之莫若楫先生(Dr Za-Chieh Moh)；秘書為紐西蘭專業工程師學會之 Mr Paul Gardner。

表 7 亞太工程師協定會員

壹、會員

編號	國家別	代表機構	加入年別
1	澳洲	澳洲工程師聯合會(Engineers Australia)	2000
2	加拿大	加拿大工程師聯合會(Engineers Canada)	2000
3	中華台北	中國工程師學會(Chinese Institute of Engineers)	2005
4	中國香港	香港工程師學會(The Hong Kong Institution of Engineers)	2000
5	印尼	印尼工程師學會(Persatuan Insinyur Indonesia (Institution of Engineers))	2001
6	日本	日本技術士會(Institution of Professional Engineers Japan)	2000
7	韓國	韓國專業工程師協會(Korean Professional Engineers Association)	2000
8	馬來西亞	馬來西亞工程師學會(Institution of Engineers Malaysia)	2000
9	紐西蘭	紐西蘭專業工程師學會(Institution of Professional Engineers NZ)	2000
10	菲律賓	專業管制委員會(Professional Regulatory Board)	2003
11	新加坡	新加坡工程師學會(Institution of Engineers Singapore)	2005
12	泰國	泰國工程師聯合會(Council of Engineers Thailand)	2003
13	美國	美國國際工程實務聯合會(United States Council for International Engineering Practice)	2001

資料來源：IEA(2009)。

在效益方面，在亞太工程師 IPER 登記名錄上所作的登記，可確保專業工程

師擁有讓其專業資格在亞太地區獲得認許的機會，進而有助於專業工程服務業的全球化。這對於在其他亞太經濟體提供服務的工程公司有其特別利益，但對於有意在這些經濟體從事某些階段工作的個人而言，也具有加值效果。

本項亞太協定的每一會員經濟體均承諾，對於已依亞太工程師協定登記有案者，在本地專業工程登記名錄進行登記時，所要求的額外評估，將減至最低。

亞太工程師會員經濟體(APEC Engineer Member Economies)即本協定的會員，享有參與協定的全部權利，每一會員負責操作亞太工程師登記名錄的一個國家支部，或亞太工程師及國際專業工程師聯合登記名錄的一個國家支部，在這些國家支部中持有登記證者，在另一會員轄區內申請登記或核發執照時，可能獲得承認(credit)。在 13 個會員經濟體中，韓國、馬來西亞、紐西蘭等 3 個國家設有線上登記系統。

申請及授權操作亞太工程師登記名錄的程序：

申請授權在一個經濟體中操作亞太工程師登記名錄，必須符合亞太工程師手冊(*The APEC Engineer Manual*)所規定之各項原則(principles)，以及亞太工程師協調委員會(APEC Engineer Coordinating Committee)適時通過的各項指導方針(guidelines)。

在申請授權操作一個亞太工程師登記名錄時，監督委員會(Monitoring Committee)應準備及向亞太工程師協調委員會提出一份擬採行評估標準及程序的報告，接受全面檢視，其檢視程序與監測各已被授權之監督委員會作業成效之程序相同。

通過檢視後，應經亞太工程師協調委員會雙年會中三分之二已被授權監督委員會的支持，始能取得授權。

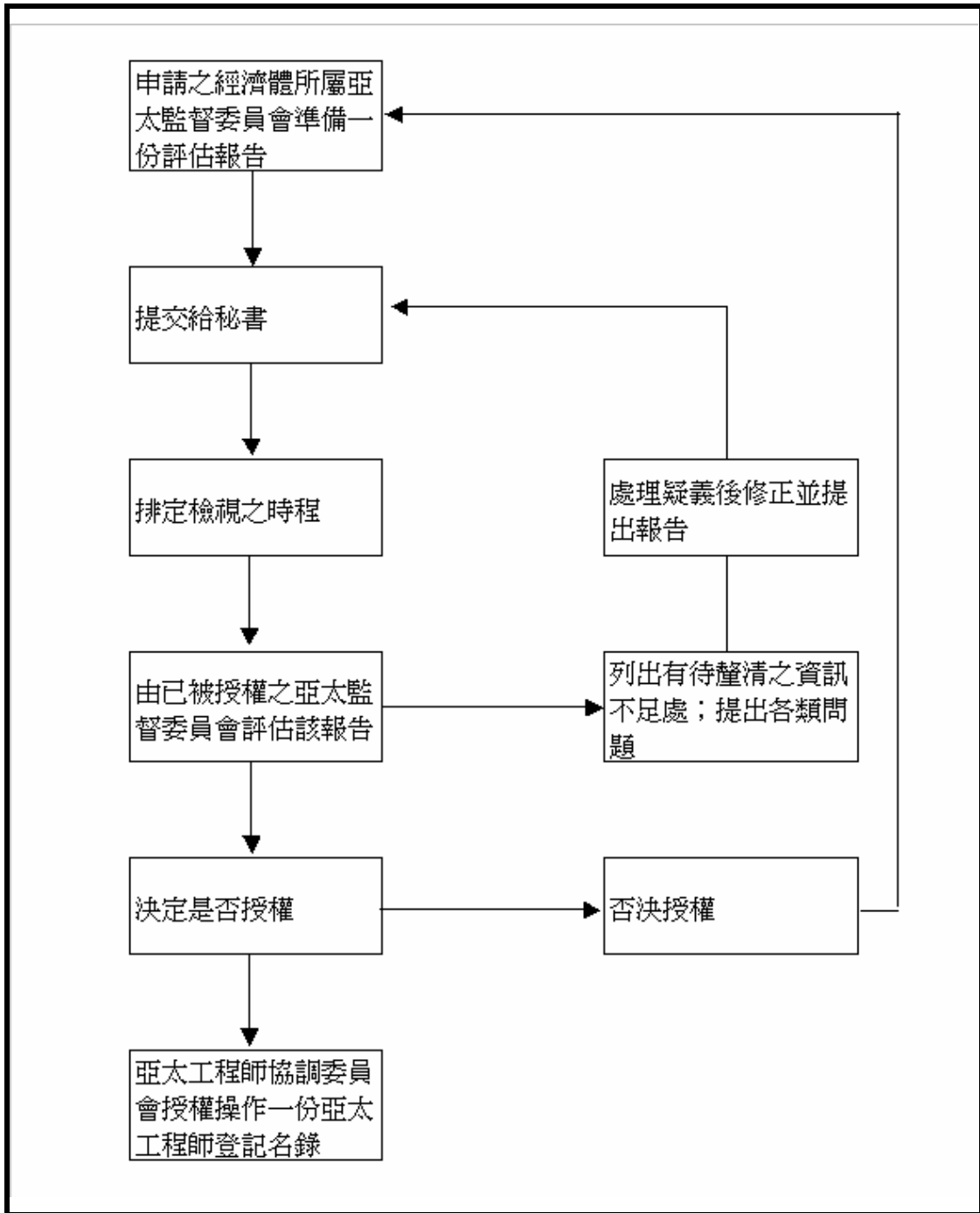


圖 1 亞太工程師協定會員資格申請及授權程序

資料來源：IEA(2009)。

六、工程技術員流動論壇

工程技術員流動論壇(Engineering Technologist Mobility Forum)，是基於雪梨

協定之各簽署機構共識，決定發展富有經驗工程技術員(experienced engineering technologists)之相互認許，該協定各簽署機構之工程專業代表陸續於 1999 年 11 月在雪梨、2001 年 6 月在南非棘叢市(Thornybush)集會，與會者就各自核准認許富有經驗工程技術員之程序、政策及手續交換資訊及初步評估後，認為差異不太，值得進一步進行檢視。與會者同意若干廣泛原則，俾期未來設立一個促進架構，以消除工程技術員在這些國家之間自由移動及執業的人為障礙。會中針對這些原則及概要程序達成協議，以建立富有經驗工程技術員職能的實質對等認定，此項協定稱為《工程技術員流動論壇備忘錄》(the Engineering Technologist Mobility Forum Memorandum of Understanding, ETMF MOU)。

雪梨協定簽署機構於其 2001 年 6 月 25 日集會時，成立了一個論壇，稱為《工程技術員流動論壇》(the Engineering Technologists Mobility Forum, ETMF)，透過本論壇，這些代表所屬國家或領地組織的代表們希望能夠：

- 1.發展、監測、維護及推動彼此可以接受的標準及準則，以利富有經驗工程技術員的跨境移動。
- 2.尋求對於現有各類移動障礙的更多瞭解，並發展及推動各項策略，協助各個政府及核發執照機關以有效且無差別方式管理這些障礙。
- 3.鼓勵相關的政府及核發執照機關，根據經 ETMF 成立之各項協定其簽署機構建議之標準及作業方式，採納並執行各種相互流動程序。
- 4.針對如何培育及評估有意在國際上以專業水準執業的工程技術員，界定出最佳作業模式，並鼓勵各國執行。
- 5.透過各種適當方法，持續進行相互監控及資訊交換；包括：(1)定期溝通及分享有關評估程序、標準、制度、手冊、出版品及認許核可執業人員名冊等資訊；(b)邀約參訪其他參與者的各類程序運作；(c)邀約參訪與會人員所屬國家中負責執行這些程序關鍵議題的各類委員會議，及其主管機構的相關會議。

在 2001 年 6 月南非棘叢市所舉行的一次會議中，與會人員同意向渠等所代表之組織建議考慮加入本協定草約的簽署機構，以建立並維護一個國際工程技術員登記名錄(International Register of Engineering Technologists)。本協定現任主席

(Chair)為英國工程聯合會的 Mr David Long，副主席(Deputy Chair)為加拿大技術人員與技術員聯合會之 Mr Yaroslaw Zajac，秘書(Secretariat)為紐西蘭專業工程師學會之 Mr Paul Gardner。

建立並維護 ETMF 國際工程技術員登記名錄的協定，目的是提供一個架構，以利各簽署經濟體的負責機構能夠認許富有經驗執業工程技術員。特別是針對這些機構，本協定鼓勵它們以這份登記名錄作為主要參據，妥慎設計工程技術員向其他經濟體申請執照、登記或證照時的相互認許、減免或加快處理等特別程序安排。

對於任一簽署組織與其他組織以有別於 ETMF 國際工程技術員登記名錄之加入資格的不同條件簽署雙邊或多邊協定，本協定不予限制。

會員(Members)享有參與本協定之所有權利；每一會員操作國際工程技術員(the International Engineering Technologist, IntET)登記名錄的一個國家支部；在這些國家支部持有登記證者，尋求另一會員轄區內的登記或核發執照時，可能獲得承認(credit)。其中，紐西蘭設有線上登記系統(Online Registers)。

表 8 工程技術員流動論壇協定會員

編號	國家別	代表機構	加入年別
1	加拿大	加拿大技術人員與技術員聯合會(Canadian Council of Technicians and Technologists)	2001
2	中國香港	香港工程師學會(The Hong Kong Institution of Engineers)	2001
3	愛爾蘭	愛爾蘭工程師聯合會(Engineers Ireland)	2001
4	紐西蘭	紐西蘭專業工程師學會(Institution of Professional Engineers NZ)	2001
5	南非	南非工程聯合會(Engineering Council of South Africa)	2001
6	英國	英國工程聯合會(Engineering Council UK)	2001

資料來源：IEA(2009)。

申請程序(Application Process for Organisations), 成為 ETMF 全權會員的程序區分為 2 階段：

第一階段(Stage One)

首先，該組織可以申請成為準會員(Provisional Member)。準會員是其所屬經濟體已經設有、或正在發展專業合格工程技術員的登記名錄，並希望申請成為 ETMF 全權會員(Full Member)的組織。

然而，獲准成為準會員，並不意謂、也不能據以主張該組織的註冊名錄任一部分符合全權會員的要求。

任一組織欲成為準會員者，應經 2 個全權會員書面推薦，並經 ETMF 大會全權會員至少三分之二同意後，始予接受。

第二階段(Stage Two)

具全權會員(Full Members)身分的組織，是指經臨時或完全授權維護國際工程技術員登記名錄的一個支部，負責登記所屬專業合格工程技術員的組織，這些人員必須經評估取得在其所屬經濟體獨立執業的資格，且其資格必須奠基於與取得雪梨協定會員組織所認證之工程技術學位或文憑或證書的畢業生實質相當的學術成就。

由準會員轉換至全權會員時，須由各全權會員指導協助轉換過程的所有層面，尤其重要的是，應草擬一份評估報告(Assessment Statement)。準會員提出評估報告時，應詳列其現行國內登記程序及標準，及其規劃有關未來如何接受個別申請人加入國際工程技術員登記名錄該國支部的程序及標準。

評估報告必須確實符合 ETMF 國際登記協調委員會(ETMF International Register Co-Ordinating Committee)所要求的各項標準。這些條件包括：

- 1.各全權會員同意創設及維護一個集中式的國際工程技術員登記名錄，核准加入該登記名錄之對象，限為能夠證明符合下列資格之執業人員：(1)達到加入本登記名錄的基本學術成就標準，亦即，與持有雪梨協定全權會員之組織依該協定所認證之工程技術學位或文憑或證書之畢業生實質相當。(2)具有畢業後至少 7 年實務經驗。(3)至少 2 年實質負責重要工程業務。(4)在所屬經濟體中曾已通過

評估取得獨立執業資格。(5)維持成績良好的持續專業教育。

如所屬經濟體並未要求工程技術員必須持有依雪梨協定認證之工程技術學位或文憑或證書，執業人員如具下列資格之一，得經通盤評估模式，視同符合本項登記名錄加入資格之學歷標準：(a)完成經一個簽署組織或一個由簽署組織授權且獨立於教育提供部門以外之機構所認證的一套結構化工程教育。(b)通過某一經濟體授權機構所舉辦之一項以上書面考試，但其認證程序及準則暨其考試標準必須先經全部既有簽署機構認同。(c)根據 ETMF 架構，通過以職能或成果為基礎的評估或其他驗證機制，取得所屬經濟體工程技術員執業證書或登記證或執照，其評估機制足以評定這種循替代性專業發展途徑取得之學術成就符合實質相當之要求。

2.申請人必須同意遵守執業所在地經濟體所建立及執行之專業行為準則 (codes of professional conduct)。此類準則通常要求執業人員將社區的健康、安全及福利置於其對顧客及同僚的職責之上，僅於職能領域內執業，遇有必須額外專業協助執行一項計畫或專案時，應向顧客提出忠告。

3.申請人並須同意以遵守執業所地地經濟體執照或登記主管機關所要求之規範，以及接受司法裁判等方式，對其本身之行為負起個人責任。申請登記時，申請人即授權各全權會員組織可以在必要時交換此種個人資訊，以確保一位工程技術員在所登記或領取執照之任一經濟體接受懲戒或處罰的紀錄，能在決定其繼續登記時一併納入考量，並在登記名錄中適當註記。

授予發展及維護國際工程技術員登記名錄一個支部的臨時權限，應先通過對於擬議之各項程序及標準的通過檢視後，經過 ETMF 國際協調委員會大會中至少三分之二全權會員的投票同意。

參、首爾協定：第七項國際協定？

為建立電腦及資訊工程相關教育課程國際相互認許制度，經韓國工程教育認證委員會(ABEEK)於 2007 年秋倡議，2007 年 11 月 5、6 日，澳洲、加拿大、德國、日本、韓國、英國及美國等 7 個國家負責大學層級電腦及資訊科技相關教育之認證機構代表，在韓國首爾召開「電腦及資訊相關系科教育課程認證事項 IT 國際研討會」(IT International Symposium on Accreditation of Educational Programs in Computing and IT-related Disciplines)，會中各國簡報其資訊科技相關教育及認證制度，簡報結束後，與會人員發布「首爾宣言」(Seoul Declaration)，希望成立首爾協定(Seoul Accord)。

各參與經濟體於 2008 年 1 月提名組織各工作小組(Working Group)。2 月，各工作小組提出工作分配(Terms of Reference, TOR)。3 月至 5 月，進行工作小組討論。6 月 27、28 日，於首爾召開期中會議(Interim Meeting)，由澳洲、加拿大、日本、韓國、英國及美國等 6 個國家的大學層級電腦及資訊科技相關教育認證機構代表參加，除檢視工作進度外，並決議通過成立首爾協定的推動計畫(the forward plan)，定於 2008 年 12 月 6 日正式啟動本項協定，成為電腦專門職業學歷資格跨國相互認許的第一項國際協定。

2008 年 7 月至 10 月，進行第 2 輪的工作小組討論。11 月，工作小組提出報告。2008 年 12 月 6 日，召開首爾協定第一次會員大會(Seoul Accord General Meeting, SAGM 2008 Seoul)，澳洲、加拿大、日本、韓國、英國及美國等 6 國大學層級電腦及資訊科技相關教育認證機構均派代表參加，與會人員同意成立首爾協定，並通過管理文件(Governance Document)、法規及程序(Rules and Procedures)、畢業生屬性(Attributes for Graduates)等規範，推舉美國工程及科技認證委員會(ABET)的 Dr. Joe Turner 擔任主席(Chair)，秘書處由韓國工程教育認證委員會(ABEEK)負責，秘書長由韓國 Dr. Sung-Jo Kim 擔任，會中並決定第二次會員大會定於 2009 年 6 月 20 日在日本東京舉行。首爾協定開始啟動。

本協定創始簽署機構包括美國工程及科技認證委員會(Accreditation Board

for Engineering and Technology, ABET)、韓國工程教育認證委員會(Accreditation Board for Engineering Education of Korea)、澳洲電腦協會(Australian Computer Society)、加拿大資訊處理協會(Canadian Information Processing Society)、英國電腦協會(British Computer Society)、日本技術者教育認定機構(Japan Accreditation Board for Engineering Education)。

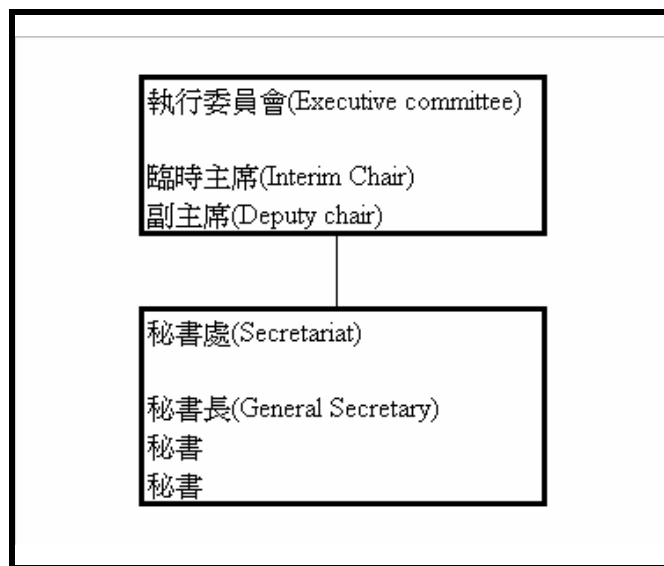


圖 2 首爾協定組織圖

資料來源：Secretariat of Seoul Accord (2009)

欲申請成爲首爾協定之簽署機構，應循下列程序：

- 1.申請案必須在本協定開始開會討論該申請案之日 120 天以前送達秘書處。
- 2.秘書處應在本協定開始開會討論該該申請案之日 90 天以前將申請案送交各簽署機構。
- 3.任一簽署機構得在本協定開會 60 天以前提出書面問題送交秘書處，申請機構應在會議 30 天以前向秘書處提交書面答覆，俾將問題及答覆轉送給所有簽署機構在本協定開會前先行審視。
- 4.申請機構應指派一名代表親自於本協定會議中正式提出申請並回答各項詢問。另外，申請案必須以英文撰提；準會員身分(Provisional status)通常授與 4 年期限，但如果經會議三分之二的簽署機構同意申請機構已有實質進步時，得展

延二年，展延次數不限一次。

首爾協定第 2 次會員大會(SAGM 2009 Kyoto)於 2009 年 6 月 20 日在日本東京召開，除了澳洲、加拿大、日本、韓國、英國及美國等 6 個國家大學層級電腦及資訊科技相關教育認證機構代表出席外，台灣及香港的電腦及資訊科技相關教育認證機構也派代表申請成為首爾協定的簽署機構(signatory)。會中各簽署機構同意接受台灣中華工程教育學會(IEET)及中國香港工程師學會(HKIE)為首爾協定的簽署機構。美國工程及科技認證委員會(ABET)的 Dr. Joe Turner 再度以全體一致通過之方式，獲選任為主席，任期至 2011 年第 3 次會員大會為止。會中並決定，首爾協定的第 1 次工作坊會議(workshop)訂於 2010 年 8 月在澳洲布里斯班舉行，第 3 次首爾協定會員大會訂於 2011 年 6 月在台灣台北舉行，名稱為 SAGM 2011 Taipei。

表 9 首爾協定簽署機構

編號	國 家 別	代 表 機 構	加入年別
1	美國	工程及科技認證委員會(Accreditation Board for Engineering and Technology, ABET)	2008
2	韓國	韓國工程教育認證委員會(Accreditation Board for Engineering Education of Korea, ABEEK)	2008
3	澳洲	澳洲電腦協會(Australian Computer Society, ACS)	2008
4	英國	英國電腦協會(British Computer Society, BCS)	2008
5	加拿大	加拿大資訊處理協會(Canadian Information Processing Society, CIPS)	2008
6	中國香港	香港工程師學會(The Hong Kong Institution of Engineers, HKIE)	2009
7	中華台北	中華工程教育學會(Institute of Engineering Education Taiwan, IEET)	2009
8	日本	日本技術者教育認定機構(Japan Accreditation Board for Engineering Education, JABEE)	2008

資料來源：Secretariat of Seoul Accord (2009)。

首爾協定(Seoul Accord)為各個負責認證或認許大學程度(tertiary-level)電腦及資訊科技相關學歷資格的機構所簽署的多邊協定(multi-lateral agreement)。這些機構決定共同致力於協助具適當學歷資格之電腦及資訊科技相關專門職業人員的自由移動(mobility)，並改進大學程度電腦及資訊科技相關教育之品質。本協定涵蓋的是廣義的電腦課程，包括諸如電腦科學、計算機科學、資訊、通訊科技等課程均涵蓋在內。

其任務(Mission)包括：1.要求各簽署機構之認證制度，及認證制度所適用之教育制度，均須透明化(transparency)。2.本協定之各項運作及政策應避免滋生專斷或反覆之誤解，包括接受新會員及實施會員規定等。3.本協定應爭取各界認定為電腦及資訊科技相關專門職業教育品質保證之國際權威機構。4.本協定應促進並發展電腦及資訊科技系科教育改進之最佳作業方法。5.本協定應持續審視其政策及程序，以確保這些政策及程序為電腦及資訊科技相關科技未來發展之相關及可靠指標。

會員資格(指成為簽署機構 signatory)屬自願參加性質，但各簽署機構必須致力於發展及認許電腦教育的良好運作。本協定期待簽署機構數量能繼續成長，未來各簽署機構之活動主要在協助電腦及資訊科技相關學歷資格相互認許能夠朝全球化發展。本協定各簽署機構的共識，是希望藉由建立本協定，(1)確保新進專門職業人員的素質能夠有助於電腦及資訊科技相關系科的普遍進步，形塑優質的專業執業模式。(2)達到所有國家或經濟體共同促進資訊科技相關科系專門職業新進人員教育條件之學術課程相互認許的潛在利益。透過本協定，各簽署國將可以從世界各地徵募到最優秀的資訊科技員工，也可協助本地工程師將自己的技能攜赴國外。

本協定也瞭解目前已有其他國際團體推動其他相互認許機制；本協定各簽署機構尋求與其他國際團體一起合作，並考量電腦科系會隨著科技、專業及社會需求而繼續演進，本協定的性質未來將配合隨時調整。

肆、我國加入國際工程師協定經過

我國於 2005 年、2007 年、2009 年分別加入亞太工程師協定(APEC Engineer)、華盛頓協定(Washington Accord)、國際工程師流動論壇(Engineers Mobility Forum)協定，以下分別說明其經過。(2009 年加入首爾協定，尚非國際工程聯盟管轄之 6 個國際協定之一。)

一、加入亞太工程師協定

我國於 2002 年 1 月 1 日成爲 WTO 會員，爲推動我國專業技師資格國際化，經行政院公共工程委員會研究認爲採行亞太工程師認證制度最爲適合，乃於 2003 年 5 月 22 日由各政府機關及民間相關單位成立「中華台北亞太工程師推動委員會」，參加同年 6 月之亞太工程師協調委員會第 4 次委員會議，順利成爲準會員(Provisional Member)。

2005 年 3 月，中華台北亞太工程師推動委員會改組爲「中華民國亞太工程師監督委員會」，正式向亞太工程師協調委員會提出成爲正式會員的申請案，並於同年 6 月協調委員會在香港召開第 5 次委員會議時，順利成爲正式會員。

亞太工程師所要求的資格包括 6 項：1.完成受國家認證或認許的工程專業教育課程。2.已在所屬經濟體通過考核認定爲具備獨立執業資格。3.在畢業後取得至少 7 年的實務經驗。4.此 7 年中至少 2 年負責重要工程業務。5.接受持續專業發展。6.遵守工程倫理規範(參見：中華台北亞太工程師監督委員會，2008)。

在整個入會申請過程中，因各會員國對於中華台北工程教育品質仍有疑義，因此中華台北亞太工程師監督委員會提出較限縮性的工程教育資格條件：1.申請人已成功在「國外」之學校完成高等教育並取得學位證書，並同符合亞太工程師

手冊要求之條件者¹。2.申請人已成功在「國內」之學校完成高等教育並取得學位證書，並且符合台灣中華工程教育學會(IEET)的認證規範者，2008年起明定此部分為中原大學、淡江大學、逢甲大學等3個學校。3.申請人在1998年(含)以前已成功在「國內」「國立大學」完成高等教育並取得學位證書者。2008年起，對於專科畢業生取得碩士學位者，只要碩士符合亞太工程師認證規定，亦採認其學歷資格條件。

自2008年起，國內可申請亞太工程師之類科有5種：除了原有的土木工程科、結構工程科、大地工程科外，自2008年起新增電機工程科、環境工程科2種。

二、加入華盛頓協定

爲了改善我國的工程教育問題，教育部顧問室在1990年代推動一系列工程教育改進計畫，1994年與1995年舉辦「國際工程教育研討會」(International Conference on Engineering Education, ICEE)，並於2003年由教育部顧問室邀集國內工程校、院長舉辦「2003年工程教育研討會」，討論籌設中華工程教育學會(Institute of Engineering Education Taiwan, IEET)，同年成立，成爲負責推動國內工程教育改革的重要單位。

中華工程教育學會(Institution of Engineering Education Taiwan, IEET)成立於2003年6月，以進行工程教育之獨立認證(accreditation)爲其設立目的，成立之初即以加入華盛頓協定組織爲主要工作目標之一，經過2年的努力，已建立了完善

¹ 包括：

- (a) 東南亞及太平洋地區工程學會聯盟(簡稱 FEIAP) 所擬訂之實施方針所認證的工程學位。
- (b) 由華盛頓協議正式會員組織按該協議規定所認證的工程學位。
- (c) 由日本顧問工程師協會制定之專業工程師考試第一階段考試合格。
- (d) 通過美國之工程及測量主考官國家委員會制定之「工程基本原則」及「工程原理與實務」考試。
- (e) 若其教育認證之標準、程序或考試規則，經由一個或多個監督委員會提交亞太工程師協調委員會認可，而其工程課程係由獨立於教育提供單位外之機構所認證或其考試係由該經濟體所授權之機構辦理者。

的工程及科技教育認證制度與系統。2005年6月15日，在香港召開之華盛頓協定(Washington Accord，簡稱WA)大會中，中華工程教育學會獲得全體會員的支持與肯定，代表我國以全票通過成為華盛頓協定之準會員(Provisional Signatory)(葛家豪，2005)。

2007年6月20日，我國中華工程教育學會與韓國 ABEEK 同時成為「華盛頓協定」(Washington Accord，簡稱WA)簽署機構、正式會員(Signatory)(同時申請者還有德國，但未通過)，通過 IEET 認證的工程相關學系可直接獲得該國際組織的認可，透過 WA 的相互認許平台，國際將承認我國通過 IEET 認證單位畢業生的學歷。其次是未來通過 IEET 認證的國內教育單位畢業生，至 WA 國家申請國外專業工程師執照(Professional Engineer，簡稱PE)時，將獲得與當地通過認證單位的畢業生相等權益。在國內，畢業於 IEET 認證單位並領有國內技師執照者，即可申請領取「亞太工程師執照」(APEC Engineer License)。

三、加入工程師流動論壇協定

中國工程師學會兼辦中華台北亞太工程師監督委員會，為推動加入工程師流動論壇(Engineer Mobility Forum, EMF)，首先於2007年由行政院公共工程委員會接受辦理「評估加入國際工程師流動論壇之可行性」研究計畫，認定加入工程師流動論壇(Engineer Mobility Forum, EMF)可行性，而且可獲得多位現今會員國友人支持(中國土木水利工程學會，2007)。

依據研究結論，行政院公共工程委員會委託中國工程師學會，執行「推動加入國際工程師流動論壇計畫」，完成評估報告草案(Draft Assessment Statement)。2008年年初，在兩個既有會員國資格的推薦下，正式向「國際工程聯盟」(International Engineering Alliance, IEA)提出加入 EMF 準會員之申請；2008年6月24日在所有會員一致無異議下，通過我國正式成為國際工程師流動論壇的準會員。接著持續改進評估報告，以完成符合國際工程師流動論壇之國際註冊協調

委員會(EMF International Register Coordinating Committee)之規定要求外，並於 2009 年 6 月 15 日至 20 日，於日本京都所舉行兩年一度的 IEM 大會上，提出正式會員(Full Member)之申請。

2009 年 6 月 17 日上午 10 時，依照大會議程的安排，將邀請所有目前出席之會員國，對於印度及中華台北於今年申請成為 EMF 正式會員進行討論及投票。由於印度代表在簡報時，我國代表在聽完簡報之後被要求離場，在場的會員國針對印度的申請顯然意見甚多，以致於我國代表團到中午用餐時間到時，尚未允許進入會場進行簡報。直到中午午餐結束後，我方代表進入會場並由「中華台北 EMF 監督委員會」主任委員莫若楫向著全體會員國作簡報，就在簡報之後，會場主持的大會主席開放與會人士提問，沒想到現場全體鴉雀無聲，最後以無異議的方式，全體鼓掌一致同意通過我國繼印度之後，成為第 15 個正式會員國。

依傳統慣例由入會申請至獲得正式會員，短則四年，長則數年；我國由入會至獲正式會員只需二年時間，於 2009 年 6 月 17 日獲全數會員國同意通過成為正式會員，不但創造了國際上的新創舉，而且這也正是代表國際對我國工程師註冊制度之肯定；雖然依照入會規定，目前中華台北世界工程師監督委員會仍處於「過渡階段」(Interim Authorization Status)，但以全體出席會議會員國支持的程度而言，我國可以宣稱成為完全符合正式會員的資格。此外，我國更爭取 2011 年的 IEM 大會於台灣舉行。展望未來，我國人當持續努力，繼續改進與各國之合作與談判外，更應加強與各會員國之間的橫向聯繫，創造我國技師更廣大的國際執業空間(中華台北亞太工程師監督委員會，2009)。

伍、結語：未來展望

2009年6月，我國出席於日本京都舉行的國際工程會議 IEM 2009 Kyoto，獲得國際工程師流通論壇(EMF)審查通過，成為該國際工程組織的正式會員，國內登記有案之工程類技師將可申請認證取得「國際工程師」(International Engineer)之資格。在本次國際工程會議中，我國技師人力的教考訓用制度獲得各國代表肯定，取得 2011 年國際工程大會之主辦權，中華台北亞太工程師監督委員會莫主任委員若楫並獲選為亞太工程師監督委員會副主席。

2002年1月1日，臺灣正式成為 WTO 會員。根據臺灣入會申請時，最後在 1999年10月5日提出的正式「服務業特定承諾表及最惠國豁免待遇表」，除了開放外國法事務律師在臺灣執業外，並開放律師、會計師、建築師、技師、獸醫師(佐)等專門職業可由取得臺灣執業資格者提供服務。自 2003年起，臺灣即積極加入亞太工程師組織(APEC Engineer)，初期申請土木工程、結構工程及大地工程 3 科技師為範圍，並於 2005年6月亞太工程師協調委員會在香港召開第 5 次委員會議時，順利成為正式會員。同時，在工程教育認證方面，2005年臺灣也申請成為華盛頓協定(Washington Accord)的準會員，並於 2007年成為其正式會員。在亞太工程師的架構下，臺灣技師凡符合工程教育認證之學歷條件、獨立執業能力、7年以上包含 2 年負責重大工程之工作經歷、持續專業發展、遵守工程師倫理規範等亞太工程師五大要求者，將可取得「亞太工程師」資格，為將來我國與亞太各國進一步簽署雙邊或多邊工程師執業相互認許協定奠定基礎。2009年6月，我國再度成功加入國際工程師流動論壇(EMF)成為正式會員，由於取得國際工程師之資格條件與亞太工程師完全相同，未來我國的執業技師將可同時取得 2 種國際資格。

一、妥慎規劃辦理國際工程大會台北會議。2011年6月我國將舉辦國際工程大會，包括 6 項國際協定同時舉行雙年會，屆時首爾協定亦將移師台北。為因應此項國際盛會，主管機關應及早架構聯繫平台，俾利產官學各界共同攜手合

作，將台北會議順利辦理竣事，提昇我國之國際地位。

二、積極推動技師法修正草案完成立法程序。為基於平等互惠原則推動與其他經濟體相互認許彼此技師資格，行政院於民國 97 年 11 月 5 日函請立法院審議技師法修正草案，其中第 56 條規定「(第 1 項)外國與我國依下列方式締結技師相互認許條約或協定者，該國技師應技師考試，得依平等互惠原則，以口試及審查學歷經歷證明方式，或其他對等方式行之。其及格者，發給技師認許證書：一、由國家或國際組織談判及締約。二、經中央主管機關授權之專業團體代表政府談判締約。三、由專業團體談判締結之條約或協定，經中央主管機關認可。(第 2 項)依前項規定取得技師認許證書之外國技師，得依該國與我國締結之技師相互認許條約或協定所訂方式，向中央主管機關申請發給執業許可。(第 3 項)領有執業許可之外國技師，在我國執行技師業務，應遵守我國一切法令，並加入技師公會；其有關業務上所用之文件、圖說，應以我國文字為主。(第 4 項)領有執業許可之外國人，其執業方式如下：一、於專案工程期限內，與我國技師共同執行該專案工程業務並聯名簽署。二、於專案工程期限內，獨立執行該專案工程業務並簽署。三、其他相互認許條約或協定所訂平等互惠方式。(第 5 項)第二項外國技師執業之登記、效期、執業範圍、撤銷登記、廢止登記及其他應遵行事項之辦法，由中央主管機關定之。」可惜因部分團體對於開放外國技師進入國內市場仍有疑慮，技師法修正草案迄無進展。不過，加入亞太工程師協定、國際工程師流動論壇協定，並無法落實專業工程師跨國執業的問題，必須仰賴國與國之間簽署資格認許協定，配合國內規章之修正開放，才有可能使專業工程師取得另一經濟體之執業資格。技師法上開修正規定即為我國對外簽署國際相互認許協定之重要前提要件，主管機關宜加強溝通，儘速推動完成修正草案之立法程序。

三、成立技師考試改進推動小組，建構與國際接軌之技師考試制度。國內技師分設 32 類科，為利國際接軌，考選部將成立技師考試改進推動小組，研究技師考試全面改採二階段考試之可行性，推動時並應有完整的實習制度或實務工作經驗認定作為配套。

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照片



IEM 2009 Tokyo 開會情形



中華台北代表爭取下次會議主辦權



IEM 2009 Tokyo 開會情形



IEM 2009 Tokyo 與會人員合影



中華台北與會代表留影



中華台北亞太工程師監督委員會代表在 IEM 2009 Tokyo 會場外留影

附錄1 國際教育協定之《法規與程序》規定

RULES & PROCEDURES

INTERNATIONAL EDUCATIONAL ACCORDS

WASHINGTON ACCORD 1989

SYDNEY ACCORD 2001

DUBLIN ACCORD 2002

The Washington Accord, Sydney Accord and Dublin Accord are three multi-lateral agreements between groups of jurisdictional agencies responsible for accreditation or recognition of tertiary-level engineering qualifications within their jurisdictions who have chosen to work collectively to assist the mobility of engineering practitioners (i.e. professional engineers, engineering technologists and engineering technicians) holding suitable qualifications. Membership (called being a signatory) is voluntary, but the signatories are committed to development and recognition of good practice in engineering education. The number of signatories is growing, and the activities of the Accord signatories (for example in developing exemplars of the graduates' profiles from certain types of qualification) are intended to assist growing globalisation of mutual recognition of engineering qualifications. However, it is acknowledged that there are other approaches by other multi-jurisdictional groupings. As the Accord signatories seek to work with those other groupings the nature of the Accords could evolve. Hence the documents presented in this compendium are current as of 2007, but could change in the future.

FOUNDATION DOCUMENTS

This compendium of documents covers the three international accords relating to mutual recognition of accreditation / recognition systems and / or qualifications. It is constructed at three levels:

- A. GOVERNANCE DOCUMENTS
(the Accord themselves)
- B. RULES AND PROCEDURES
(mandatory things which expand the governance document) – these are changeable according to a defined process after a notice period to all signatories of any proposed change
- C. GUIDELINES
(representing the "norm" of how things are done, but which are not mandatory) – these are changeable according to a defined periodic monitoring any time by the signatories

Now that the Accords are up and running and growing, in the interests of simplicity and ease of understanding, it is timely to move towards a common modus operandi. Whilst governed independently of each other, the three Accords have therefore adopted the principle that where possible Rules and Procedures and Guidelines should be as identical as possible between Accords. This has meant the adoption of a common glossary, and led to a development of generic documents which apply to all Accords unless a specific exception is stated. Accordingly, there is only one set of Rules and Procedures in Section B, and only one set of Guidelines in Section C.

<u>SECTION A – GOVERNANCE DOCUMENTS</u>	3	
1. WASHINGTON ACCORD.....	3	
2. SYDNEY ACCORD.....	5	
3. DUBLIN ACCORD.....	8	
2. DIFFERENCES BETWEEN ACCORDS.....	12	
SECTION B – RULES AND PROCEDURES.....	13	
1. Definitions.....	13	
2. Admission.....	16	
2.1 Provisional status.....	16	
2.2 Becoming a Signatory.....	17	
3. Monitoring of Signatories.....	18	
3.1 Monitoring Protocols.....	18	
3.2 Nomination of Persons to Form Teams.....	18	
3.3 Periodic monitoring.....	18	
3.4 Continuous Monitoring.....	19	
3.5 Consideration of Recommendations and Requests for Reconsideration... .	20	
3.6 Upgrade from or Continuation of Conditional Status.....	21	
4. Resignation, Downgrading and Termination.....	23	
4.1 Resignation.....	23	
4.2 Downgrading for Failure to Demonstrate Ongoing Substantial Equivalence	23	
4.3 Termination for Failure to Meet Obligations as a Signatory.....	23	
4.4 Termination of Provisional Status.....	24	
5. Conduct of Meetings, Rights of and Obligations on Signatories and Organisations Holding Provisional Status.....	26	
5.1 Meetings.....	26	
5.2 Workshops.....	29	
6. Changes to Accord Agreements, Rules and Procedures, and Guidelines.....	30	
6.1 Changes to Accord Agreements.....	30	
6.2 Changes to Rules and Procedures.....	30	
6.3 Changes to the Guidelines.....	31	
6.4 Voting.....	31	
7. Election of Officers.....	32	
8. Engineering Programs accredited by Accord signatories in non-Accord jurisdictions.. ..	34	
9. Secretariat.....	35	
10. Contribution to Costs.....	36	
SECTION C – GUIDELINES.....	37	
1. Graduate Profile Exemplars.....	37	
2. Applying for Provisional Status.....	41	
2.1 Preliminary Steps Prior to Making Application.....	41	
2.2 Documentation in Support of Applications.....	41	
2.3 Guidelines to Assist in Evaluation of Applications.....	42	
3. Mentoring.....	44	
3.1 Principles.....	44	
3.2 Appointment of Mentors.....	44	
3.3 Reporting.....	44	
3.4 Consultants.....	45	
3.5 Mentoring provided by Individual Signatories.....	45	
4. Applying to Become a Signatory.....	45	
5. Periodic Monitoring.....	49	
5.1 Continuous Monitoring.....	50	
5.2 General protocols applying to both review procedures.....	50	
6. Fulfillment of Accord Administrative and Procedural Obligations.....	52	
6.1 Bi-Annual Reporting by Signatories.....	52	
6.2 Bi-Annual Reporting by Organisations Holding Provisional Status.....	53	
6.3 Issue Resolution.....	53	
7. Principles of Good Practice for Accord Signatories Working Internationally.....	55	

SECTION A – GOVERNANCE DOCUMENTS

1. WASHINGTON ACCORD

RECOGNITION OF EQUIVALENCY OF ACCREDITED ENGINEERING EDUCATION PROGRAMS LEADING TO THE ENGINEERING DEGREE

AGREEMENT

The signatories have exchanged information on, and have examined, their respective processes, policies and procedures for granting accreditation to engineering academic programs, and have concluded that these are comparable. Through the Washington Accord, which comprises this Agreement, the Rules and Procedures and the Transitional Provisions, the signatories recognise the substantial equivalence of such programs in satisfying the academic requirements for the practice of engineering at the professional level.

1. Accreditation of engineering academic programs is a key foundation for the practice of engineering at the professional level in each of the countries or territories covered by the Accord. The signatories therefore agree: that the criteria, policies and procedures used by the signatories in accrediting engineering academic programs are comparable; that the accreditation decisions rendered by one signatory are acceptable to the other signatories, and that those signatories will so indicate by publishing statements to that effect in an appropriate manner; to identify, and to encourage the implementation of, best practice, as agreed from time to time amongst the signatories, for the academic preparation of engineers intending to practice at the professional level; to continue mutual monitoring and information exchange by whatever means are considered most appropriate, including: regular communication and sharing of information concerning their accreditation criteria, systems, procedures, manuals, publications and lists of accredited programs; invitations to observe accreditation visits; and invitations to observe meetings of any boards and / or commissions responsible for implementing key aspects of the accreditation process, and meetings of the governing bodies of the signatories.
2. Each signatory will make every reasonable effort to ensure that the bodies responsible for registering or licensing professional engineers to practice in its country or territory accept the substantial equivalence of engineering academic programs accredited by the signatories to this agreement.
3. The Accord applies only to accreditations conducted by the signatories within their respective national or territorial boundaries.
4. The admission of new signatories to the Accord will require the unanimous approval of the existing signatories, and will be preceded by a prescribed period of provisional status, during which the accreditation criteria and procedures established by the applicant, and the manner in which those procedures and criteria are implemented, will be subject to comprehensive examination. Applicants for provisional status must be nominated by two of the existing signatories, and will be accepted only through a positive vote by at least two-thirds of the existing signatories.
5. Appropriate Rules and Procedures will be established by the signatories to ensure that this Agreement can be implemented in a satisfactory and expeditious manner. The adoption of, or amendment to, such Rules and Procedures will proceed only through a positive vote by at least two-thirds of the signatories.
6. There shall be biennial general meetings of the representatives of the signatories to review the Rules and Procedures, effect such amendments as may be considered

necessary, and deal with applications for provisional status, and for admission.

7. The administration of the Accord will be facilitated by a secretariat established and operated in accordance with the Rules and Procedures made under the provisions of this Agreement.

The Accord will remain in effect for so long as it is acceptable and desirable to the signatories. Any signatory wishing to withdraw from the Accord must give at least one year's notice to the secretariat. Removal of any signatory will require the affirmative vote of at least two-thirds of the signatories.

Signed in 1989 by:

- Accreditation Board for Engineering and Technology Canadian Council of Professional Engineers
- Engineering Council United Kingdom
- Institution of Engineers Australia
- Institution of Engineers, Ireland
- Institution of Professional Engineers New Zealand

Signed in 1995 by

- Hong Kong Institution of Engineers

Signed in 1999 by

- Engineering Council of South Africa

Signed in 2005 by

- Japan Accreditation Board for Engineering Education

Signed in 2006 by

- Institution of Engineers Singapore

Signed in 2007 by

- Chinese Taipei: Institute of Engineering Education Taiwan
- Accreditation Board for Engineering Education of Korea

Signed in 2009 by

- Malaysia: Board of Engineers Malaysia

2. SYDNEY ACCORD

RECOGNITION OF EQUIVALENCE OF ACCREDITED ENGINEERING TECHNOLOGY EDUCATION PROGRAMS

DEFINITION

For the purposes of this Agreement, and any future Rules and Procedures made under this Agreement, engineering technology academic programs are defined as the programs through which practitioners normally satisfy the academic requirements for the engineering roles currently known amongst the initial signatories as:

- Engineering Technologist Australia
- Certified Engineering or Applied Science Technologist Canada
- Associate Member of HKIE Hong Kong China
- Associate Engineer Ireland
- Engineering Technologist New Zealand
- Professional Technologist (Engineering) South Africa
- Incorporated Engineer United Kingdom

The term "engineering technologist" is used throughout this Agreement to refer to practitioners engaged in any or all of the above roles.

PREAMBLE:

The signatories have exchanged information on, and have examined, their respective processes, policies and procedures for granting accreditation to engineering technology academic programs, and have concluded that these are comparable. Through the Sydney Accord, which comprises this Agreement and the Rules and Procedures and the Transitional Provisions, the signatories recognise the substantial equivalence of such programs in satisfying the academic requirements for the practice of engineering technology at the appropriate level within the engineering team.

THE SIGNATORIES THEREFORE AGREE AS FOLLOWS:

1. The accreditation of academic programs is a key foundation for the practice of engineering technology in each of the countries or territories covered by the Accord, and:
 - the criteria, policies and procedures used by the signatories in accrediting engineering technology academic programs are comparable;
 - the accreditation decisions rendered by one signatory are acceptable to the other signatories, and that those signatories will so indicate by publishing statements to that effect in an appropriate manner;
 - the signatories will identify, and encourage the implementation of, best practice, as agreed from time to time amongst themselves, for the academic preparation of engineering technologists intending to practice at the professional level;
 - the signatories will continue mutual monitoring and information exchange by whatever means are considered most appropriate, including:

- regular communication and sharing of information on their accreditation criteria, systems, procedures, manuals, publications and lists of accredited programs;
 - invitations to observe accreditation visits; and
 - invitations to observe meetings of any boards and / or commissions responsible for implementing key aspects of the accreditation process, as well as meetings of the governing bodies of the signatories.
2. Each signatory will make every reasonable effort to ensure that the bodies responsible for certifying, registering or licensing engineering technologists to practise in its country or territory accept the substantial equivalence of engineering technology academic programs accredited by the signatories to this Agreement.
 3. The Accord applies only to accreditations conducted by signatories within their respective national or territorial boundaries. Before accrediting an engineering technology academic program, which leads to a single award based on delivery in multiple jurisdictions covered by the Accord, a signatory will seek confirmation from the accrediting body in each such jurisdiction that the program meets their normal accreditation requirements.
 4. Any signatory which has been invited to undertake an "accreditation" or "assessment for substantial equivalence" by an educational provider in another jurisdiction shall be obliged to contact the recognised accrediting body being a signatory to this Accord in that jurisdiction before proceeding and to offer to undertake a joint assessment.
 5. The admission of new signatories to the Accord will require the approval of at least two-thirds of the existing signatories and will be preceded by a prescribed period of provisional status, normally two years, during which the accreditation criteria and procedures established by the applicant, and the manner in which those procedures and criteria are implemented, will be subject to comprehensive examination. Applicants for provisional status must be nominated by two of the existing signatories, and will be accepted only with the approval of at least two-thirds of the existing signatories.
 6. Appropriate Rules and procedures will be established by the signatories to ensure that this Agreement can be implemented in a satisfactory and expeditious manner. The adoption of, or amendment to, such Rules and procedures will proceed only through a positive vote by at least two-thirds of the signatories.
 7. There shall be biennial general meetings of the representatives of the signatories to review the Rules and procedures, effect such amendments as may be considered necessary, and deal with applications for provisional status, and for admission.
 8. The administration of the Accord will be facilitated by a Secretariat consisting of a Chair and a Secretary appointed in accordance with the Rules and procedures made pursuant to this Agreement.

The Accord will remain in effect for so long as it is acceptable and desirable to the signatories. Any signatory may withdraw from the Accord by giving at least twelve months notice to the Secretary. Removal of any signatory will require a resolution supported by at least two-thirds of the signatories. No such removal will, of itself, affect standing granted prior to that cessation by other signatories, to engineering technologists within the jurisdiction of such signatory, on the basis of this Agreement.

TRANSITIONAL PROVISIONS

These provisions are designed to facilitate the adoption and commencement of the Sydney Accord by all signatories and specify arrangements through which the outstanding verification procedures associated with the Accord can be completed.

At the time when the Agreement and the Rules and Procedures were adopted, the verification procedures set out in the Ottawa Intent had not been completed in respect of the signatories identified in the Schedule to these Transitional Provisions.

The signatories concerned accept that the Agreement, and the Rules and Procedures, will apply to those signatories in the schedule except for:

- a. the engineering technology academic programs which they accredit, and
- b. that they will not be requested to nominate representatives to serve as full members of any review team established under the Rules and Procedures, until the outstanding verification of their accreditation procedures and criteria has been completed and ratified.

Such verifications will be undertaken by review panels established in accordance with the Ottawa Intent, provided that the composition of any such review panel is acceptable to the signatories. These Transitional Provisions will not affect any other rights and responsibilities which the signatories subject to verification may have, or may be required to exercise, in connection with the Agreement and Rules and Procedures.

Signed on 25 June 2001 by:

- Canadian Council of Technicians and Technologists
- Engineering Council of South Africa
- Engineering Council United Kingdom
- Hong Kong Institution of Engineers
- Institution of Engineers Australia
- Institution of Engineers, Ireland
- Institution of Professional Engineers New Zealand

RECOGNITION OF QUALIFICATIONS GAINED PRIOR TO THE SIGNING OF THE ACCORD

The following agreement was ratified at the June 2003 general meeting of the Accord held in Rotorua, New Zealand:

Programmes in accreditation at the time of signing of the Sydney Accord in June 2001 would be automatically defined as eligible for recognition under the Accord. In the case of any course accredited prior to the “in accreditation at time of signing” period, the signatory to which the application is made, obtains confirmation from the accreditation signatory that the course is deemed to be substantially equivalent to the currently accredited course. The course would then be eligible under the Accord

(Source: Item 5 of the Sydney Accord Minutes, IEM 2003)

3. DUBLIN ACCORD

RECOGNITION OF EQUIVALENCE OF EDUCATIONAL BASE FOR ENGINEERING TECHNICIANS

AGREEMENT

Signed 13 May 2002 at The Institution of Engineers of Ireland, Dublin

DEFINITION

For the purposes of this Agreement, and any future Rules and Procedures made under this Agreement, the educational base for engineering technicians is defined as the programs through which practitioners normally satisfy the academic requirements for the engineering roles currently known amongst the initial signatories as:

- Certified Engineering Technician Canada
- Engineering Technician Republic of Ireland
- Professional Engineering Technician Republic of South Africa
- Engineering Technician United Kingdom

The term “engineering technician” is used throughout this Agreement to refer to practitioners engaged in any or all of the above roles.

PREAMBLE

The signatories have exchanged information on, and have examined, their respective processes, policies and procedures for recognising the educational base for engineering technicians, and have concluded that these are comparable, and that those successfully completing this educational base can be relied on to have acquired the broad outcomes listed in Annexe A. Through the Dublin Accord, which comprises this Agreement and any future Rules and Procedures, the signatories recognise the substantial equivalence of the educational base within signatory economies in satisfying the academic requirements for practice as an engineering technician within the engineering team. Details of the exemplifying qualifications in use in each of the economies, together with the overall description of the expected output of exemplifying academic courses, are listed in Annexe A to this agreement.

THE SIGNATORIES THEREFORE AGREE AS FOLLOWS:

1. The educational base is a key foundation for practice as an engineering technician in each of the economies covered by the Accord, and:
 - the criteria, policies and procedures used by the signatories in recognising engineering technician academic programs including quality assurance processes and practice are comparable;
 - the recognition decisions rendered by one signatory are acceptable to the other signatories, and those signatories will so indicate by publishing statements to that effect in an appropriate manner within their jurisdictions;
 - the signatories will identify, and encourage the further implementation of, good practice, as agreed from time to time amongst themselves, for the academic preparation of engineering technicians intending to practice at the professional level;

- the signatories will continue mutual monitoring and information exchange by whatever means are considered most appropriate, including:
 - regular communication and sharing of information on their recognition criteria, systems, procedures, manuals, publications and lists of accredited programs;
 - invitations to observe recognition procedures; and
 - invitations to observe meetings of any boards and / or commissions responsible for implementing key aspects of the recognition process, as well as meetings of the governing bodies of the signatories.
2. Each signatory will make every reasonable effort to ensure that the bodies responsible for certifying, registering or licensing engineering technicians to practise in its jurisdiction accept the substantial equivalence of engineering technician academic programs recognised by the signatories to this Agreement.
 3. The Accord applies only to recognition of the educational base where this has been undertaken within the jurisdictional boundaries of the national body. Before recognising an engineering technician academic program, which leads to a single award based on delivery in multiple jurisdictions covered by the Accord, a signatory will seek confirmation from the national body responsible for recognition of engineering technicians in each such jurisdiction that the program meets their normal educational base requirements.
 4. Any signatory which has been invited to undertake an “accreditation” or “assessment for substantial equivalence” by an educational provider in another jurisdiction shall be obliged to contact the recognised national body governing engineering technician education being a signatory to this Accord in that jurisdiction before proceeding and to offer to undertake a joint assessment.
 5. The admission of new signatories to the Accord will require the approval of at least two-thirds of the existing signatories and will be preceded by a prescribed period of provisional status, normally two years, during which the educational base criteria and procedures established by the applicant, and the manner in which those procedures and criteria are implemented, will be subject to comprehensive examination. Applicants for provisional status must be nominated by two of the existing signatories, and will be accepted only with the approval of at least two-thirds of the existing signatories.
 6. Appropriate Rules and Procedures will be established by the signatories to ensure that this Agreement can be implemented in a satisfactory and expeditious manner. The adoption of, or amendment to, such Rules and Procedures will proceed only through a positive vote by at least two-thirds of the signatories.
 7. There shall be biennial general meetings of the representatives of the signatories to review the working of the Accord and the Rules and Procedures, to effect such amendments as may be considered necessary, and deal with applications for provisional status, and for admission.
 8. The administration of the Accord will be facilitated by a secretariat consisting of a Chair and a Secretary agreed signatories appointed in accordance with the Rules and Procedures made pursuant to this Agreement.

The Accord will remain in effect for so long as it is acceptable and desirable to the signatories. Any signatory may withdraw from the Accord by giving at least twelve months’ notice to the Secretary. Removal of any signatory will require a resolution supported by at least two-thirds of the signatories. No such removal will, of itself, affect standing granted prior to that cessation by other signatories, to engineering technicians within the jurisdiction of such signatory, on the basis of this Agreement.

Signed in 2002 by:

- Engineering Council United Kingdom
- Institution of Engineers, Ireland
- Engineering Council of South Africa
- Canadian Council of Technicians and Technologists.

EXEMPLIFYING ACADEMIC QUALIFICATIONS

CANADA

Exemplifying Academic Qualifications are Technician programs which meet the criteria set out in the Canadian Technology Standards.

REPUBLIC OF IRELAND

Exemplifying Academic Qualifications are National or Technician Certificate in Engineering.

REPUBLIC OF SOUTH AFRICA

Exemplifying Academic Qualifications are accredited National Diplomas in Engineering.

UNITED KINGDOM

Exemplifying Academic Qualifications are Edexcel or SQA National Certificate or National Diploma, Advanced General National Vocational Qualification, National Vocational Qualifications at Level 3 and City Guilds Part 3 qualifications in an engineering discipline. In each case specified pathways apply.

OUTCOME STATEMENTS FOR ENGINEERING TECHNICIAN EDUCATION BASE

The roles of Engineering Technicians involve them in the implementation of proven techniques and procedures to the solution of practical problems. They carry a measure of supervisory and technical responsibility and are competent to exercise creative aptitudes and skills within defined fields of technology, initially under the guidance of engineering practitioners with appropriate experience.

Engineering Technicians contribute to the design, development, manufacture, commissioning, operation and maintenance of products, equipment, processes and services. They apply safe systems of work.

A course of education which can be recognised as underpinning a planned career as an Engineering Technician is expected to:

- Provide a foundation for progression and develop a positive attitude towards lifelong learning, from which the Engineering Technician will be able to develop a detailed understanding of the principles and a mastery of the knowledge and analytical skills required for engineering practice. Motivate students towards the practice of engineering and stimulate their learning.
- Ensure that science and mathematics are taught within the context of real engineering applications, integrating theory with current industrial practice and design requirements
- Develop awareness of the social, legal, economic and political contexts within which engineers and technicians operate
- Contribute to the personal and professional development of students in the context of the applications of engineering, through the development of 'key skills'.

4. DIFFERENCES BETWEEN ACCORDS

As set out below, the three Accords differ in only two significant ways – the majority needed to admit new signatories, and the nature of equivalence. Therefore the Rules and Procedures can be the same in all matters not affected by these differences.

Attribute	Washington Accord	Sydney Accord	Dublin Accord
Basis of agreement	<u>Substantially equivalent accreditation systems</u> leading to recognition of substantial equivalence of programs in satisfying academic requirements for the practice of engineering at professional level	<u>Substantially equivalent accreditation systems</u> leading to recognition of substantial equivalence of programs in satisfying academic requirements for the practice of engineering technology at the appropriate level	<u>Substantially equivalent means for recognising the educational base qualifications to meet expected outcomes</u> for engineering technicians according to exemplifying academic qualifications
Provisional status	Requires two nominators and two-thirds majority, prescribed period, normally four years, in which comprehensive examination undertaken	Requires two nominators and two-thirds majority, prescribed period, normally four years, in which comprehensive examination undertaken	Requires two nominators and two-thirds majority, prescribed period, normally four years, in which comprehensive examination undertaken
Admission of new signatories	Requires <u>unanimous agreement</u> of signatories	Requires <u>two-thirds majority</u> of signatories	Requires <u>two-thirds majority</u> of signatories
Requirement for general meetings	Biennial	Biennial	Biennial
Office holders created	Chair and Deputy Chair elected in accordance with rules and procedures	Chair and Deputy Chair elected in accordance with rules and procedures	Chair and Deputy Chair elected in accordance with rules and procedures
Amendment of Accord	Unanimous agreement of the signatories	Unanimous agreement of the signatories	Unanimous agreement of the signatories
Amendment of Rules and procedures	Two-thirds majority	Two-thirds majority	Two-thirds majority
Resignation	On one year's notice	On one year's notice	On one year's notice
Duration of Accord	As long as signatories desire and accept it	As long as signatories desire and accept it	As long as signatories desire and accept it

SECTION B – RULES AND PROCEDURES

1. DEFINITIONS

ACCREDITATION / RECOGNITION SYSTEM

Accreditation system for the Washington and Sydney Accords, means for recognition of educational base for the Dublin Accord

APPLICANT

An organisation that has applied for provisional status within an Accord to be recognised as the authoritative accrediting agency for the jurisdiction they represent. Any such authority, agency or institution must be independent of the academic institutions delivering accredited or recognised programs within their jurisdiction.

COMMITTEE

The Chair and the Deputy Chair of the Accord acting as a managing committee of the Accord. In these roles the office-holder acts for the Accord and cannot represent the signatory with which they are affiliated.

CONDITIONAL STATUS

The status to which a signatory is downgraded if, as an outcome of monitoring and review, other signatories consider that the accreditation / recognition system has significant deficiencies requiring immediate attention. Organisations holding conditional status do not have the right to vote, and the rights of graduates for the years during which conditional status is in place are suspended.

EDUCATION PROVIDER

A tertiary (post-secondary) education teaching establishment such as a university, polytechnic, vocational teaching college or similar.

INTERNATIONAL ENGINEERING MEETINGS (IEM)

A coordinated set of meetings of various international agreements related to mutual recognition of engineering education and engineering competence, held every two years at a time and place agreed by the signatories of the various agreements. During the International Engineering Meetings there will be formal business meetings of all three Accords.

JURISDICTION

The territory, country, economy or region throughout which an organisation undertaking accreditations is regarded as having the uncontested right to conduct such accreditation activities as the recognised professional authority.

MEETING METHOD

Biennial general meetings will normally be held face to face, but business may also be conducted under urgency through teleconference (a meeting method in which signatories simultaneously join an active method of communication such as teleconference), or electronic polling (a meeting method in which signatories either vote to agree or disagree with a proposal put to the vote).

MENTEE

The jurisdiction being mentored which is committed to gaining provisional status or become a signatory of one or more of the Accords.

MENTOR

A signatory assigned by the Committee to act on behalf of an Accord and work with an applicant through a program of visits and advice in order to assist the applicant with its progress to provisional status and / or to being a signatory subsequently. The term 'mentor' may also refer to mentoring team appointed by the Committee of the relevant Accord. The mentoring team will consist of two or three representatives from full signatories of the Accord to which the mentee is committed to applying for provisional status or to become a signatory. Note: a Mentor can act as a Nominator but not as a Reviewer.

MENTORING

A process by which an appointed mentoring team provides support and guidance to an accreditation / recognition body that wishes to apply for provisional status or to become a signatory to one or more of the Accords. The mentoring role will focus on providing advice and guidance on the accreditation / recognition policies and procedures and education standards of the mentee so that the mentee is given every opportunity, on application, to gain provisional status or become a signatory of the relevant Accord.

MONITORING

The process by which an existing signatories accreditation / recognition system is evaluated by other signatories to ensure that it is still substantially equivalent to other signatories.

NOMINATOR

A Nominator shall have detailed knowledge of an applicant's accreditation / recognition system. By choosing to act as a nominator the signatory concerned is stating that in its opinion the applicant's accreditation / recognition system meets the criteria for admission to provisional status. In support of its nomination it shall supply other signatories with information on how its appraisal that led to the decision to nominate was performed.

PROVISIONAL STATUS

An applicant will achieve provisional status having demonstrated that the accreditation / recognition system for which it has responsibility appears to be conceptually similar to those of other signatories of the Accord. By conferring provisional status, the signatories have indicated that they consider that the applicant has the potential capability to be a signatory. Award of provisional status in no way implies any guarantee of becoming a signatory. Recognition of the substantial equivalence of the engineering education programs concerned shall normally become effective from the date on which the new signatory is admitted.

REQUIREMENTS

The Requirements for admission as a signatory of an Accord; defined as the substantial equivalence of characteristics, criteria and outcome standard.

REVIEW (VERIFICATION)

The process by which an organisation with provisional status is evaluated to determine whether the requirements to be a signatory are met. (also known as verification).

REVIEWER

A signatory appointed by the committee to the review team that visits and reports to the signatories on the substantial equivalency of the accreditation / recognition system of an organisation with provisional status as part of the evaluation of the applicant's review towards becoming a signatory. Note: a Reviewer shall not have been either a Mentor or Nominator for this applicant. Reviewers recommend to the signatories, whether they are of the opinion that the Requirements for becoming a signatory are met. Guidelines for the conduct of the Review are presented in Part 4 of Section C.

SECRETARIAT

An entity providing administrative support to the Committee, with the delegated authority to give advice, but not to make decisions under the Rules and Procedures.

SIGNATORY

An organisation entitled to fully participate in an Accord, enjoying the same rights and obligations as all other signatories. Signatories must be independent of the academic institutions delivering accredited or recognised programs within their jurisdiction. They are typically authorities, agencies or institutions which are representative of the engineering profession and which have statutory powers or recognised professional authority for accrediting programs designed to satisfy the academic requirements for admission to the practicing engineering community within the jurisdiction (e.g. country, economy, geographic region).

2. ADMISSION

4.1 PROVISIONAL STATUS

1. Applications for provisional status are recommended to follow the advice stated in the guidelines given in Part 2 of Section C.
2. Applicants must provide all the information stated in Part 2.2 of the guidelines set out in Section C.
3. Applications must be provided in the English language
4. Applications must be received by the secretariat no later than 120 days before the commencement of an IEM if the application is to be considered at the relevant Accord meeting during the IEM.
5. Applications must be accompanied by written statements of nomination from two signatories, each nomination containing a declaration that the nominator considers that the applicant's accreditation / recognition system meets the requirements for provisional status.
6. The secretariat must distribute the application to all signatories no later than 90 days before the commencement of the next IEM.
7. Any signatories may provide written questions to the secretariat no later than 60 days before the IEM, in which case the applicant has until 30 days prior to the IEM to provide written answers to the secretariat for distribution of both the questions and answers to all signatories so that they can be considered before the IEM.
8. Applicants must appear in person at the Accord meeting as part of the IEM to formally present their application and answer questions.
9. Applicants must meet all the direct costs of making their application, including but not limited to funding any reasonable actions required by potential nominators to evaluate the systems of the applicant.
10. The signatories must consider each application at the meeting at which it is presented and must decide one of the three following actions:
 - a. that the applicant be granted provisional status (provided that there is a two-thirds majority), or
 - b. that the application be declined (in which case reasons would normally be stated), or
 - c. that the decision on the application be deferred (in which case the reasons must be stated).
11. The signatories may agree to consider a deferred application by a suitable meeting method prior to the next scheduled face to face meeting if there is a reasonable expectation that information that will allow the application to be decided will be available, but no such meeting may occur sooner than 60 days after the applicant or a nominator provides the necessary information to the secretariat.
12. Prior to the award of provisional status, applicants must undertake to cooperate in the conduct of, and to fund the direct costs of, an evaluation of the suitability and effectiveness of accreditation / recognition criteria, policies, and procedures established by the applicant for the purpose of becoming a signatory.
13. Provisional status is normally granted for a period of four years, but may be extended for one or more periods of two further years if in the view of signatories, as attested by a two-thirds majority vote at a meeting, sufficient progress towards becoming a signatory is being made.

4.2 BECOMING A SIGNATORY

1. Organisations holding provisional status and applying to become a signatory are recommended to be cognisant of the guidelines given in Section C.
2. Organisations holding provisional status must give written notice of at least one year (prior to the IEM at which they will request that upgrade of their status be considered) to the Committee and the secretariat of their request to be reviewed.
3. No later than 30 days from receiving a review request the Committee must assign three Reviewers, each drawn from a different signatory. .
4. The organisation making the review request must provide the Reviewers with reasonable notice of and opportunity to observe visits to a range of education providers, and to observe the accreditation / recognition process for a range of decisions in the period leading up to 90 days prior to the IEM at which the organisation wishes the review request for becoming a signatory to be considered. (More specific guidelines are presented in Part 4 of Section C)
5. The Reviewers will furnish a written report to the signatories no later than 90 days prior to the IEM at which the review recommendation will be considered, unless a shorter period (of at least 30 days) is agreed by the Committee to be sufficient in the circumstances.
6. The signatories must consider each set of review recommendations at the meeting at which it is presented and must decide one of the four following actions:
 - a. that the organisation holding provisional status be made a signatory (provided that there is a two-thirds majority of all signatories in the case of the Sydney or Dublin Accord, or unanimous support of all signatories in the case of the Washington Accord), and the date at which recognition by the other signatories of the substantial equivalence of the engineering academic programs concerned shall become effective is stated (this would normally be the date on which the new signatory is admitted), or
 - b. that the organisation holding provisional status be declined becoming a signatory, but that provisional status be extended for a further period (in which case reasons must be stated), or
 - c. that the organisation holding provisional status be declined becoming a signatory and that provisional status not be extended (in which case the reasons must be stated), or
 - d. that the decision on the review recommendations be deferred (in which case the reasons must be stated).
7. During consideration of a review recommendation each signatory which chooses not to support the recommendation from the Reviewers must provide to all other signatories its reasons.
8. When the decision on review recommendations is deferred, the signatories may agree to reconsider the review recommendations by a suitable meeting method prior to the next scheduled face to face meeting if there is a reasonable expectation that information that will allow the application to be decided will be available, but no such meeting will occur sooner than 60 days after the organisation holding provisional status or the Reviewers provides the necessary information to the secretariat.

3. MONITORING OF SIGNATORIES

4.3 MONITORING PROTOCOLS

1. Each of the accreditation or recognition systems for which a signatory is responsible shall be subject to comprehensive monitoring and report by representatives of the other signatories at intervals of not more than six years.
2. The Committee must establish and the secretariat publish annually, no later than 1 July, a schedule for the programme of monitoring activities, this schedule covering at least the upcoming six years.
3. Upon receipt of the schedule each signatory must immediately inform the Committee whether it wishes to be monitored by periodic monitoring or by continuous monitoring. In the event that a signatory does not select one or other procedure then the periodic monitoring procedure is assumed to have been selected.
4. The type of monitoring to be used for any individual signatory must be approved by the signatories via a suitable meeting method prior to the commencement of any monitoring actions.
5. Any signatory which effects a substantial change to its accreditation criteria, policies or procedures is obliged to report such a change to the Committee via the secretariat and thereby to provide the other signatories with the opportunity to require that the scheduled monitoring and report be brought forward.

4.4 NOMINATION OF PERSONS TO FORM TEAMS

1. Upon request from the secretariat, each signatory must provide as soon as possible one or more names of persons to form part of the panel from which Monitoring Teams may be drawn. If Continuous monitoring is used, in determining the suitability of proposed team members signatories must note that panel members fulfil a dual role, firstly as accreditation panel members and secondly as Accord monitors. This clause 3.2 1 shall not require any signatory to provide more than one such representative in any calendar year for any one Accord.

4.5 PERIODIC MONITORING

1. Each signatory to be monitored must receive a notice from the secretariat no less than six months prior to the year of the Monitoring Team activities being undertaken.
2. Three representatives from different signatories, one of whom will be designated the team leader, must be selected by the Committee to form the Monitoring Team; the secretariat must take all reasonable steps to ensure that none of the individuals selected through this process has had any substantial prior involvement in or commitment to the accreditation system being monitored.
3. The signatory responsible for the accreditation system to be monitored must be advised by the secretariat of the proposed composition of the Monitoring Team, and invited to show cause why any member of the Monitoring Team is not suitable. In the event that such an objection is lodged, the secretariat must advise the Committee to take such steps as are necessary and appropriate to resolve the situation. If unable to achieve consensus, the Committee must consult all signatories before confirming the membership of the Monitoring Team.
4. The signatory whose accreditation system is to be monitored shall be invited to propose a suitable process, timetable and administrative support mechanism, for consideration by the Monitoring Team. The monitoring process must include accreditation visits to educational providers offering engineering academic programs and to the meetings at which the outcomes of such visits are discussed and decided.
5. All discussions concerning monitoring must be held in confidence by the Monitoring

Team. At the conclusion of each monitoring activity, the monitoring team must forward its report and recommendations to the secretariat as soon as reasonably practicable. A copy of that report must be furnished to each signatory through the secretariat.

6. The recommendations open to the monitoring team are as follows:
 - a. that the accreditation / recognition system in question be accepted by the other signatories, for a period of six years, as leading to outcomes substantially equivalent to the systems known to the monitoring team; or
 - b. that the accreditation / recognition system in question be accepted by the other signatories, for a period of not more than two years subject to the responsible signatory providing, within six months, a report which satisfies the other signatories that adequate steps are being taken to address the specific issues identified by the monitoring team; or
 - c. that the accreditation / recognition system in question has serious deficiencies, that the signatory be downgraded immediately to conditional status, and that urgent and specific assistance be provided by the other signatories to help address the deficiencies.

4.6 CONTINUOUS MONITORING

1. At the beginning of the six year monitoring period, three representatives from different signatories, one of whom will be designated the team leader, must be selected by the Committee to form the Overall Monitoring Team (OMT); the secretariat must take all reasonable steps to ensure that none of the individuals selected through this process has had any substantial prior involvement in or commitment to the accreditation system being monitored.. The secretariat will inform those signatories that they will be required to nominate persons who can fulfil dual roles as accreditation panel members, and as the Accord Monitoring Team.
2. If for any reason a member of the OMT should become unavailable during the monitoring period, the committee may appoint a replacement team member following consideration of nominations from the signatory who provided the initial team member.
3. The signatory responsible for the accreditation system to be monitored must be advised by the secretariat of the proposed composition of the Overall Monitoring Team, and invited to show cause why any member of the OMT is not suitable. In the event that such an objection is lodged, the secretariat must advise the Committee to take such steps as are necessary and appropriate to resolve the situation. If unable to achieve consensus, the Committee must consult all signatories before confirming the membership of the OMT.
4. The signatory will provide the Committee with an overall monitoring programme for the monitoring period indicating when Accord Monitoring Team visits are likely to occur. The programme will ensure that Accord Monitoring Teams (AMT) participate in not less than three accreditation visits within the monitoring period, where possible to separate educational providers.
5. An AMT consisting of a subset of the OMT will be formed by the OMT team leader and the signatory being monitored for each designated accreditation visit. AMT will consist of two OMT members for major accreditation or 1 for smaller visits. The OMT team leader will appoint one of the AMT as the AMT team leader for each monitored accreditation visit.
6. Each AMT will produce a report, a copy of which will be provided to the signatory beginning monitored, members of the OMT and the Committee.
7. Any issues or recommendations identified by one AMT will be considered by subsequent AMTs, with the signatory under review expected to provide a report on changes made

between AMT visits.

8. The signatory being monitored must ensure that at least one member of the OMT, in the last two years of the six year monitoring period, meets with the accreditation / recognition agency, reviews the accreditation / recognition procedures with the agency and observes an accreditation / recognition board decision meeting.
9. All discussions concerning monitoring must be held in confidence by the OMT.
10. Prior to the end of the monitoring period the Chair of the OMT will prepare a summary report and recommendations to the secretariat. A copy of that report must be furnished to each signatory through the secretariat, no later than 90 days prior to the next biennial meeting of the Accord signatories.
11. If, after at least 2 AMT visits, but before the end of the monitoring period, the OMT concludes that there are substantive matters that call into question the substantial equivalence of the accreditation system of the signatory being monitored, the OMT may prepare a summary report and recommendations to the secretariat. A copy of that report must be furnished to each signatory through the secretariat for consideration at the next biennial meeting of the Accord signatories.
12. The recommendations open to the Overall Monitoring Team are as follows:
 - a. that the accreditation / recognition system in question be accepted by the other signatories, for a period of six years, (as leading to outcomes substantially equivalent to the systems known to the monitoring team); or
 - b. that the accreditation / recognition system in question be accepted by the other signatories, for a period of not more than two years, subject to the responsible signatory providing, within six months, a report which satisfies the other signatories that adequate steps are being taken to address the specific issues identified by the review team; or
 - c. that the accreditation / recognition system in question has serious deficiencies, that the signatory revert immediately to conditional status, and that urgent and specific assistance be provided by the other signatories to help address the deficiencies.

4.7 CONSIDERATION OF RECOMMENDATIONS AND REQUESTS FOR RECONSIDERATION

1. Recommendations from monitoring activities under either Periodic monitoring or Continuous monitoring are considered by the other signatories in committee at a general meeting.
2. The signatories may resolve only one of the following:
 - a. that the accreditation / recognition system in question be accepted by the other signatories, for a period of six years; or
 - b. that the accreditation / recognition system in question be accepted by the other signatories, for a period of not more than two years, subject to the signatory in question providing, within six months, a report which satisfies the other signatories that adequate steps are being taken to address specific issues; or
 - c. that the signatory revert immediately to a non-voting conditional status for a period of no more than two years, and that specific requirements to be addressed be stated.
3. A resolution for (a) or (c) shall require support from two-thirds of the signatories, and in the absence of that majority the outcome shall be (b) in which case the specific issues to be addressed must be stated.
4. The subject signatory may, within 60 days of notification of a decision, request reconsideration of a decision imposing conditional status (c), and request independent

reconsideration of its case. Requests for reconsideration must be based on one or more of the following grounds:

- a. that there was a failure to follow these Rules, and / or
 - b. that there were substantial errors of facts in the report considered by the signatories which were likely to have affected the decision reached by the signatories, and / or
 - c. that the report considered by the signatories did not include relevant information, and had that information been placed before the signatories there was a reasonable likelihood that a different decision would have been made.
5. If a reconsideration is requested, the Committee must ensure that within six months of the decision, a reconsideration panel which is established in the same manner as a monitoring team using Periodic monitoring, but has no membership in common with, the original monitoring team(s) is established and reports its outcomes.
 6. Whilst a reconsideration is in progress the signatory will continue to enjoy the full benefits of being a signatory.
 7. The reconsideration panel shall determine the procedures and criteria under which it operates, but at all times its procedures must be consistent with these Rules and procedures as far as this is reasonably possible.
 8. The full costs of any such reconsideration must be borne by the subject signatory.
 9. The right to request reconsideration may be exercised only once.
 10. The recommendations of a reconsideration panel must be considered by the signatories by a suitable meeting method as soon as reasonably possible, and one of the following decisions made: .
 - a. that the accreditation / recognition system in question be accepted by the other signatories, for a period of six years; or
 - b. that the accreditation / recognition system in question be accepted by the other signatories, for a period of not more than two years, subject to the signatory concerned providing, within six months, a report which satisfies the other signatories that adequate steps are being taken to address specific issues; or
 - c. that the signatory revert immediately to a non-voting conditional status for a period of no more than two years, and that specific requirements to be addressed be stated.

4.8 UPGRADE FROM OR CONTINUATION OF CONDITIONAL STATUS

1. Where conditional status is imposed by the other signatories the Committee must provide, in writing within 30 days of the decision, the specific requirements to be addressed by the organisation downgraded to conditional status, and state the process by which assessment of whether the requirements have been met will be made.
2. The assessment will normally involve written reports submitted by the organisation holding conditional status at intervals of six months to the Monitoring Team who conducted the periodic monitoring or OTM in the case of Continuous monitoring, may involve a visit by one or more members of the Monitoring Team or OTM, and will involve reporting by the Monitoring Team or OTM at six-monthly intervals to the Committee on progress.
3. When, in the view of the Committee the most recent report from the Monitoring Team or OTM indicates that the requirements have been satisfactorily addressed, the Committee must immediately call a meeting of the signatories by a suitable meeting method to consider the reinstatement of the organisation back to being a signatory, and to decide

whether graduates from accredited programmes during the years in which conditional status was in place should receive rights of recognition under the Accord.

4. In the event of re-instatement to being a signatory, voting rights are immediately restored.
5. In the event that an organisation is re-instated from conditional to being a signatory graduates from accredited programmes in the year in which re-instatement occurs shall enjoy the rights of recognition under the Accord.
6. Where the signatories are satisfied that an organisation holding conditional status is making good progress towards once again being a signatory, but that at the end of the period of conditional status has not fully met the requirements the signatories may agree to extend the period of conditional status for no more than two further years.
7. The costs incurred by members of the Monitoring Team or OTM must be borne by the organisation holding conditional status.

5. RESIGNATION, DOWNGRADING AND TERMINATION

5.1 RESIGNATION

1. A signatory may resign from an Accord by giving at least one year's written notice to all other signatories. The period in which the organisation was a signatory will be deemed to end on 31 December of the year after that in which notice was given. During its period of notice the resigning signatory must continue to fulfil its obligations as a signatory, but loses its right to vote on matters related to applications for provisional status, review recommendations for becoming a signatory, monitoring reports on signatories and any matter relating to the changes to the Accords, Rules and Procedures or Guidelines. For the avoidance of doubt, in such circumstances the signatory that has given notice of resignation will be excluded when determining the total number of votes available to be cast..
2. Provided the resigning signatory provides to all other signatories, to the satisfaction of the Committee a comprehensive list of programmes accredited or recognised during the time as a signatory, graduates of those programmes who graduated during the years that the signatory was active in the Accord will continue to receive the same rights of recognition as graduates of other signatories.
3. An organisation holding provisional status may resign from that provisional status at any time by giving 6 months written notice to all signatories.

5.2 DOWNGRADING FOR FAILURE TO DEMONSTRATE ONGOING SUBSTANTIAL EQUIVALENCE

1. Where a signatory has been downgraded from signatory to conditional status for failure to meet the necessary standard of substantial equivalence of recognition or accreditation, and the organisation fails to satisfy the signatories within the period of time allowed that it has met the specific requirements, and the signatories are unwilling to continue the period of conditional status, the organisation shall lapse from conditional status to provisional status.
2. Provisional status shall be granted in these circumstances for no more than two years, the specific time being selected by the Committee so that the end of the term coincides with a scheduled general meeting of the Accord signatories.
3. Provided the downgraded signatory provides to all other signatories, to the satisfaction of the Committee a comprehensive list of programmes accredited or recognised during the time as a signatory, graduates of those programmes who graduated during the years that the signatory was a signatory in the Accord (including the year in which downgrading to conditional status occurred) will continue to receive the same rights of recognition as graduates of other signatories. Any graduates completing their programme during the period of conditional status will not enjoy the privileges of graduates of Accord signatories.

5.3 TERMINATION FOR FAILURE TO MEET OBLIGATIONS AS A SIGNATORY

1. If in the view of a two-thirds majority of other signatories, a signatory is failing to meet its reasonable obligations under an Accord, the other signatories may give notice to that effect to the signatory concerned. Such notice must state the specific nature of the concerns.
2. Any signatory which receives notice from the other signatories that in their view shall have one year from the date of the notice in which to demonstrate that it has taken appropriate action and has recommenced the fulfilment of its obligations.
3. If, after a year, two-thirds of other signatories agree that significant improvement has been made, but not sufficient to remove doubt that the signatory in question is fulfilling its obligations, the period for demonstrating improvement shall be extended by either six months or one year as the signatories may decide.

4. If, in the view of at least two-thirds of other signatories, a signatory which has been given notice under 1, 2 and 3 above has not taken sufficient corrective actions within the specified period the signatory is deemed to have been removed from being a signatory. The date of removal shall be the end of the calendar year in which the decision to terminate was made.
5. Where termination is for failure to meet financial obligations, the defaulting Agreement Participant shall be removed from being a Member or Provisional Member of all relevant Agreements unless the Governing Group, in consultation with the Deputy Chairs, accept that there are exceptional circumstances giving rise to the non-payment of annual subscription. In such circumstances the Governing Group may give the Agreement Participant a reasonable time, normally three months, within which to make payment. If payment is not received within this period, the membership of all Agreements for the defaulting Agreement Participant will lapse.
6. Reinstatement of an Agreement Participant removed from membership of any IEA Agreement for non-payment of annual subscription will require the former Agreement Participant to meet appropriate requirements laid down by the Governing Group and the Chair and Deputy Chair of the relevant Agreements. Such requirements may include:
 - o Payment of outstanding fees,
 - o Payment of an application fee for each agreement,
 - o The completion of the full process as for a new applicant for Provisional Membership for each Agreement.
7. Provided the terminated signatory provides to all other signatories, to the satisfaction of the Committee a comprehensive list of programmes accredited or recognised during the time as a signatory, graduates of those programmes who graduated during the years that the signatory was active in the Accord will continue to receive the same rights of recognition as graduates of other signatories.

5.4 TERMINATION OF PROVISIONAL STATUS

1. At each general meeting of the Accord the signatories must review the length of period for which provisional status has been granted to each organisation holding that status (which period is normally four years but which may be extended by up to a further four years).
2. If in the view of a two-thirds majority of signatories, an organisation holding provisional status is making insufficient progress towards becoming a signatory or is failing to meet its reasonable obligations under an Accord, the signatories may give notice to that effect to the organisation concerned. Such notice must state the specific nature of the concerns.
3. Any organisation holding provisional status which receives notice from the signatories shall have one year from the date of the notice in which to demonstrate that it has taken appropriate action and has recommenced the fulfilment of its obligations and progress towards becoming a signatory.
4. If, after that year, the majority of the signatories agree that significant improvement has been made, but not sufficient to remove doubt that the signatory in question is fulfilling its obligations, the period for demonstrating improvement must be extended by one year.

5. If, in the view of a majority of signatories, determined by a suitable meeting method, an organisation holding provisional status which has been given notice under 2, 3 and 4 above has not taken sufficient corrective actions within the specified period the organisation is deemed to have been removed from provisional status. The date of removal must be immediate from the date of notice to that effect.

6. CONDUCT OF MEETINGS, RIGHTS OF AND OBLIGATIONS ON SIGNATORIES AND ORGANISATIONS HOLDING PROVISIONAL STATUS

6.1 MEETINGS

Unless otherwise set out in the Rules and Procedures, the following provisions shall apply.

1. A general meeting of the signatories must be held every two years at a time and place selected by the previous general meeting, or if not possible, as soon after as possible by the Committee following appropriate consultation with the signatories. The time and place of the general meeting must, so far as practicable, be such as to minimise overall travel costs for those representing the signatories. Where convenient, the general meeting may be arranged to follow or precede a major international conference or similar event.
2. At every general meeting, signatories and organisations holding provisional status must present a report on accreditation-related matters within their jurisdiction according to any guideline agreed by the signatories.
3. At every general meeting, and at any other time the signatories decide, there will be a session closed to observers at which signatories can raise in confidence any issue pertaining to the operation of the Accord, seeking resolution in a constructive manner. Organisations holding provisional status may be invited to attend this session if the signatories agree to this prior to the commencement of the session. The signatories may agree a set of guidelines for conduct of such sessions.
4. If two or more signatories request a special meeting of an Accord in relation to a particular matter, the question of whether to hold a special meeting shall be decided under urgency, and if so agreed the meeting shall be held at a venue to be decided by the Committee no sooner than 90 days and no later than 180 days after the decision to hold the special meeting is notified to all signatories and organisations holding provisional status.
5. A draft agenda must be circulated to all signatories at least 180 days prior to a general meeting and 90 days prior to a special meeting of an Accord.
6. Notice of items for the agenda should be notified to the Chair through the secretariat at least 90 days prior to the meeting.
7. Items for discussion at a general meeting and all necessary background papers should be submitted to the Committee via the secretariat at least 60 days prior to the meeting. The Committee reserves the right to not admit late items.
8. The agenda and business papers will be approved by the Chair and normally be distributed to the signatories by the secretariat at least two months prior to the meeting.
9. Each signatory will arrange for at least one representative to attend the general meeting and will commit to being briefed on the matters to be raised and to engage fully in the business of the meeting. Signatories may bring more than one representative to such meetings but are obligated to restrict the number of people in its delegation to the number reasonably needed to fulfil their obligations to participate fully in the meeting. Notwithstanding this provision, the Chair of the Accord may restrict the number in any delegation.
10. Organisations holding provisional status are required to accept the same commitment to interaction and exchange as the signatories. They will receive copies of appropriate correspondence and reports (other than those papers relating to admission, termination, review requests and monitoring of signatories), and are invited to send representatives to all meetings of the signatories. They are obligated to restrict the number of people in its delegation to the number reasonably needed to fulfil their obligations to participate fully in the meeting. Notwithstanding this provision, the Chair of the Accord may restrict

the number in any delegation.

11. At a general or special meeting, each signatory will have one vote, and the Chair shall have a casting vote.
12. A simple majority will suffice for a decision on any matter, unless otherwise specified in the governing Agreement or in these Rules and Procedures. Any casting vote will normally be regarded as cast for the status quo on any matter requiring two-thirds or greater majority.
13. Representatives of organisations holding provisional status will have the right of audience except when excluded under a resolution by the signatories to move into committee (also known as closed session) and debate at such general meetings, but are not permitted to vote.
14. With the agreement of the Chair, organisations with interests in the relevant Accord may be invited to be in attendance (as “observers”) for parts of the meeting as may be decided by the Chair. The right to attend does not confer the right to speak unless so invited by the Chair. Unless otherwise prescribed by the Chair the maximum number of people in the delegation of any observer will be three.
15. Signatories and organisations holding provisional status must declare any conflict of interest on any agenda item in advance of that item being discussed, and if so requested by the Chair must leave the meeting during discussion of that item.
16. Minutes of each meeting of the Accord must be recorded by the secretariat and at each meeting the minutes of the previous meeting of a like nature must be submitted to the meeting for approval and then signed by the Chair, before any other business is transacted. Draft minutes prepared by the secretariat will be reviewed for correctness by the Committee prior to their dissemination to all signatories for their comment. Such dissemination should occur within 60 days of the meeting and comment should be made within 90 days of the date of the meeting. The Committee will review comments received and within 120 days of the date of the meeting approve that the secretariat circulate to all signatories and organisations holding provisional status “minutes for approval”.
17. The meeting method may be varied from face to face to any other means enabling open discussion between representatives (e.g. teleconference) provided that there is a two-thirds majority of the signatories in favour of such a proposal.
18. Urgent matters (decided to be urgent by either a previous meeting, or by the Committee on the basis that undue delay would unreasonably penalise an affected party) may be decided out of session from meetings by an electronic polling meeting method as follows:
 - a. The written proposal setting out the motion, the rationale supporting it, and the reasons for urgent consideration of that proposal are circulated to all signatories in writing
 - b. Each signatory has 60 days to make a response in two parts – agreeing to consider the matter urgently, and recording its votes on the motion. Votes are to be provided directly to the secretariat and the Committee
 - c. The secretariat will issue reminders after 30 and 45 days to those signatories who have not responded
 - d. The matter shall be determined by the Committee as passed if there is the necessary majority for the matter concerned both for the vote to consider the matter urgently, and for the motion itself.
 - e. For the avoidance of doubt, the Committee may require any signatory to provide a faxed signed confirmation of its vote to validate that vote.

- f. The Committee must announce the result without undue delay, and the outcome will apply from the date of announcement
 - g. The matter is regarded as ratified by approval of the accuracy of documentation of the decision making process (as if that documentation was minutes of a meeting), by signatories at the next general meeting of the Accord
19. Any signatory unable to be present may provide to the Chair of the Accord a written proxy either approving or not approving a particular matter. In the event that further changes to the proposal are made during a meeting the Chair must exercise the proxy consistently with the intention of the signatory concerned, and if in doubt must abstain the proxy on the matter.
 20. The signatories, organisations holding provisional status and observers are required to meet a fair share of the costs of staging a meeting of an Accord in addition to their own costs for attendance at such meetings.
 21. The chair of any meeting may choose to conduct the meeting with a minimum of formality provided that the proceedings are conducive to the fair hearing of all matters and the agreement of outcomes. However if, of his / her own volition or on request of some of those present at the meeting, the Chair deems it necessary to formalise the meeting he / she may apply some or all of the following standing orders, as is considered reasonable and necessary for effective conduct of the meeting:
 - a. At each general meeting or meeting of the Accord, the Chair, or in his or her absence the Deputy Chair, shall take the chair.
 - b. In the above cases if the specified officers are not present a meeting shall elect its own Chair.
 - c. Except as otherwise agreed by the meeting the order of business will be as set out on the agenda paper.
 - d. Each motion or amendment not seconded shall lapse without discussion and shall not be recorded in the minutes except by the permission of the meeting.
 - e. After each motion or amendment has been moved and seconded it shall not be withdrawn without the permission of the meeting.
 - f. Except with the permission of the meeting no motion or amendment shall be proposed which in the opinion of the Chair is the same in substance as any motion or amendment which during the same meeting has been resolved in the affirmative or negative.
 - g. Where no specific procedure is laid down the Chair shall refuse to accept a motion to rescind any resolution or other vote if he or she considers that insufficient notice has been given to members.
 - h. Before putting each motion or amendment to the vote the Chair shall ensure that the motion or amendment is understood by all meeting participants.
 - i. A motion may be amended by leaving out words; by leaving out certain words and substituting other words; by inserting words; or by adding words.
 - j. Each amendment shall be relevant to the original motion.
 - k. No amendment may be accepted that produces a direct negative of the motion.
 - l. Amendments to a motion may be moved without notice.
 - m. Amendments may be moved in any order considered satisfactory by the Chair .
 - n. When an amendment has been carried, such amendment shall become the substantive motion and shall be open to amendment accordingly.
 - o. At the discretion of the Chair amendments to an amendment shall be allowed.

- p. The Chair may restrict the number of times and the length of time that each meeting participant may speak on a matter.
- q. All questions of order or procedure not provided for in these Standing Orders shall be decided by the Chair.

6.2 WORKSHOPS

1. The signatories of an Accord may choose to hold a workshop at any time for the purpose of dialogue aimed at developing recommendations for consideration at a Meeting of the Accord.
2. In general, organisations holding provisional status would only be invited to attend if the signatories consider they can contribute effectively to advancement of the issues to be discussed.
3. Observers would not normally be invited to attend workshops, and an exception would only be granted if the signatories are collectively of the view that observers can contribute effectively to advancement of the issues to be discussed.
4. The Chair of each Accord shall decide the maximum number in each delegations from signatories to such workshops, In general, delegations should be as small as possible.
5. In the event that organisations holding provisional status are invited to participate, the Chair of each Accord shall decide their maximum number in each delegation and rights of participation
6. If observers are allowed to attend, the Chair of the Accord shall decide the maximum numbering the delegation and rights of participation
7. During any such workshop, the Chairs of any session may exclude all but signatories for any particular item.
8. In the interests of effective interchange at workshops, the protocols and procedures will be consistent with these Rules and Procedures, but decision making will be by consensus. No votes will be taken, but informal polling to determine the level of support for particular proposals may be performed.

7. CHANGES TO ACCORD AGREEMENTS, RULES AND PROCEDURES, AND GUIDELINES.

7.1 CHANGES TO ACCORD AGREEMENTS

1. Changes to an Accord Agreements requires the unanimous approval of all signatories, originally determined by a vote, but then signified by the written signature of their representative to a document to be regarded as an addendum to the Accord. Until all signatories present at the time of the vote have signed in this manner the change shall be inoperative. Signatories voting by proxy may sign at a later time and this will not delay the implementation of the change.
2. Proposals for change may be made by one or more signatories, but must be provided to the Committee and secretariat in full at least 120 days in advance of the meeting at which they are to be discussed. The secretariat must circulate the proposals to all signatories and those organisations holding provisional status at least 90 days prior to the meeting.
3. If further changes to the proposal are suggested during a meeting of the Accord, and if in the view of at two signatories the changes affect the intention or substance of the proposal, any signatory may require that the matter be deferred, requiring a further 120 days notice before the matter can be further considered.
4. Any signatory unable to be present may provide to the Chair of the Accord a written proxy either approving or not approving the proposed change. In the event that further changes to the written proposal are suggested a written proxy will be declared as a vote against the further changes.

7.2 CHANGES TO RULES AND PROCEDURES

1. Changes to the Rules and Procedures of an Accord require the two-thirds majority approval of all signatories, determined by a vote. The new Rules and Procedures will be deemed to be operative immediately following the end of the meeting at which they are approved. Notwithstanding this, for matters in progress that commenced under earlier Rules and Procedures may continue to proceed to completion under those Rules and Procedures if in the view of the Committee application of the changed Rule or Procedure would impose unreasonable additional burdens on those affected by the matter.
2. Proposals for change may be made by one or more signatories, but must be provided to the Committee and secretariat in full at least 120 days in advance of the meeting at which they are to be discussed. The secretariat must circulate the proposals to all signatories and those organisations holding provisional status at least 90 days prior to the meeting
3. If further changes to the proposal are suggested during a meeting of the Accord, and if in the view of at least two signatories the changes affect the intention or substance of the proposal, those signatories may require that the matter be deferred, requiring a further 120 days notice before the matter can be further considered.
4. Any signatory unable to be present may provide to the Chair of the Accord a written proxy either approving or not approving the proposed change. In the event that further changes to the written proposal are suggested a written proxy will be declared as a vote against the further changes.

7.3 CHANGES TO THE GUIDELINES

1. Changes to the Guidelines of an Accord require the two-thirds majority approval of all signatories, determined by a vote. The new guidelines will be deemed to be operative immediately following the end of the meeting at which they are approved. Notwithstanding this, for matters in progress that commenced using earlier guidelines may continue to proceed to completion using those guidelines if in the view of the Committee application of the changed guideline would impose unreasonable additional burdens on those affected by the matter.
2. Proposals for change may be made by one or more signatories, and should be provided to the Committee and secretariat in full at least 120 days in advance of the meeting at which they are to be discussed. The secretariat must circulate the proposals to all signatories and those organisations holding provisional status at least 90 days prior to the meeting
3. Further changes to the proposal may be made suggested during a meeting of the Accord, and may be approved by a two-thirds majority of signatories voting for the changes.
4. Any signatory unable to be present may provide to the Chair of the Accord a written proxy either approving or not approving the proposed change. In the event that further changes to the written proposal are suggested a written proxy will be declared as a vote against the further changes.

7.4 VOTING

1. Matters on which a required majority is not stated in the Accord Agreements or Rules and Procedures must be decided by a simple majority vote of signatories present at the time of the decision.
2. A casting vote by a chair shall be deliberative in situations where only a simple majority is required, but in situations where a majority of two-thirds or more is required the casting vote must be made to retain the status quo.

8. ELECTION OF OFFICERS

1. The officers of the Accord shall be the Chair and the Deputy Chair who must be elected from nominations made by the signatories.
2. The officers act for the Accord, and may not simultaneously represent or vote on behalf of any signatory on any matter. For the avoidance of doubt, officers are not included in the headcount of delegations from their home signatory.
3. A person may hold office for no more than two terms, each term of two years (defined as the time between biennial general meetings) unless specifically agreed by a unanimous vote of all signatories present at a general meeting. A term is completed at the end of the general meeting at which an election is held.
4. The Deputy Chair shall undertake the duties of the Chair if the Chair is unavailable for any length of time, or has declared a conflict of interest on any matter, and has temporarily stood down from the Chair whilst that matter is considered.
5. At least 120 days in advance of a general meeting, the secretariat will send all signatories the invitation to make nominations for Chair and Deputy Chair positions.
6. To be eligible for nomination a person must be affiliated with a signatory and have the support of that signatory.
7. Nominations must be moved and seconded by two different signatories, and the nomination form signed by the nominee, nominator and seconder must be received by the secretariat no later than the day prior to the IEM at which the general meeting will be held. The secretariat will distribute the nominations to the signatories prior to the start of the general meeting.
8. No person may be elected to a position that was immediately before held by a person affiliated with the same signatory.
9. Voting will be held by secret ballot during a general meeting, and will be supervised by two independent scrutineers appointed by the general meeting.
10. In the event that there are more than two candidates and no candidate achieves more than 50% of the votes cast in the ballot, the lowest polling candidate will be eliminated and a further poll held. This process will be repeated as many times as is necessary. In the event of a tie in respect of eliminating a candidate the candidate to be eliminated will be established by the drawing of lots by the scrutineers. In the event of a tie on the last poll the Chair will exercise a casting vote.
11. In the event that the Chair is unable to complete his or her term for any reason, the Deputy Chair shall temporarily hold the position until the next general meeting. Such service shall not be counted against the term of that person in the role of Chair.
12. In the event that the Deputy Chair is unable to complete his or her term for any reason, the Chair shall decide whether the position may remain vacant (if the remaining part of the term is less than 180 days), or whether to call for nominations, and hold an election using the process for deciding matters under urgency. Service of a person elected under urgency shall not be counted against the term of that person in the role of Deputy Chair.
13. If required, elections may be conducted urgently as follows:
 - a. The ballot papers must be distributed to all signatories in writing
 - b. Each signatory has 60 days to record its vote. Votes are to be provided directly to the secretariat.
 - c. The secretariat will issue reminders after 30 and 45 days to those signatories who have

not responded

- d. For the avoidance of doubt, the Committee may require any signatory to provide a faxed signed confirmation of its vote to validate that vote.
- e. The secretariat shall be responsible for counting the votes and arranging scrutineering by at least 2 independent persons.
- f. The Chair must announce the result without undue delay, and the outcome will apply from the date of announcement
- g. The matter is regarded as ratified by approval of the accuracy of documentation of the decision making process (as if that documentation was minutes of a meeting), by signatories at the next general meeting of the Accord

9. ENGINEERING PROGRAMS ACCREDITED BY ACCORD SIGNATORIES IN NON-ACCORD JURISDICTIONS

In applying the Accords, allowed exceptions for cases where a provider, headquartered in the jurisdiction of a full signatory, offers a program outside of the jurisdiction of the signatory are defined below.

9.1 PROGRAMME IMPLEMENTED WITHOUT DIFFERENTIATION IN TWO DIFFERENT JURISDICTIONS, EACH WITH ACCREDITING BODIES WHO ARE FULL SIGNATORIES TO THE ACCORD:

Accreditation / recognition of the off-shore implementation of the program will be undertaken on a collaborative basis, initiated by the signatory of the jurisdiction in which the program is headquartered. The offshore implementation must satisfy the accreditation / recognition criteria and requirements of both signatories.

9.2 DIFFERENTIATED PROGRAMME OFFERED WITHIN THE JURISDICTION OF A FULL SIGNATORY:

Accreditation / recognition of the off-shore program offering must be undertaken by the signatory of the jurisdiction in which the program is delivered in consultation with the signatory of the jurisdiction in which the provider is headquartered.

9.3 UNDIFFERENTIATED OR DIFFERENTIATED PROGRAMME OFFERED WITHIN A NON-ACCORD JURISDICTION:

Accreditation / recognition of the off-shore program offering must be undertaken by the signatory of the jurisdiction in which the program is headquartered.

9.4 IN APPLYING THE ACCORDS, A FURTHER ALLOWED EXCEPTION IS DEFINED FOR ACCREDITATION OF ENGINEERING PROGRAMS OFFERED BY NON-ACCORD JURISDICTIONS MAY BE UNDERTAKEN BY SIGNATORIES, AND RECOGNISED BY THE ACCORD, UNDER THE FOLLOWING CIRCUMSTANCES:

- The non-Accord jurisdiction is unable to support an accreditation body, AND
- The non-Accord jurisdiction requests a signatory to act on its behalf, AND
- The signatory had identified, and had approved by the majority of the accord signatories, an interest in accrediting the engineering programs offered by providers in the non-Accord jurisdiction.

For each of the defined exception cases, the signatory undertaking international accreditation / recognition must observe the sovereignty of the jurisdiction in which the program is delivered, ensuring compliance with the statutory requirements of that jurisdiction.

10. SECRETARIAT

1. From time to time the signatories shall appoint an organisation, normally affiliated with a signatory, to provide a secretariat for that Accord for a fixed length of time (this organisation shall be referred to as the provider of secretariat services).
2. The secretariat has no decision making power, but acts in the best interests of the Accord by faithfully implementing the Procedures and Rules and the Guidelines, including referring matters to the Chair or Committee for decision.
3. The secretariat must maintain a record of the deliberations and decisions at each general or special meeting must facilitate and record exchanges of information between the signatories, maintain a relevant website, and must seek to advise signatories and others as to the policies and procedures to be adopted to give effect to the terms of the Accord.
4. The secretariat will be paid a fee for the provision of a schedule of services that may be agreed from time to time by a general meeting of the Accord.
5. The performance of the secretariat will be monitored by the Committee to ensure that the secretariat serves the Accord effectively and in good faith.
6. These Rules will be given effect by a specific contract agreed between the provider of secretariat services and the Committee acting on behalf of the Accord.

11. CONTRIBUTION TO COSTS

1. The general principle that underpins the Accords is that signatories, organisations holding provisional status and those expressing interests in the Accords should be responsible for meeting their own costs of becoming involved, and then maintaining their involvement.
2. Signatories are expected to make reasonable and equitable (taking into account the resources available to the signatory and its size) contributions of staff or volunteer time, without charge, for participation in the affairs of the Accord including, but not limited to, participating in meetings, correspondence and submissions on issues, development of policies and procedures, provision of people to undertake review and monitoring visits, and mentoring.
3. Assessed on a long term basis, all signatories and those holding provisional status are expected to make fair contributions to the costs of operating a secretariat.
4. Applicants to any Agreement will be expected to pay an application fee determined by the Governing Group to cover the cost of providing the services needed to facilitate the assessment of the application. Application fees shall be held by the provider of secretariat services for purposes deemed appropriate by the Governing Group.
5. Prospective and actual signatories and those seeking or holding provisional status are expected to meet the direct costs (e.g. travel, accommodation, meals) of those involved in processes required or recognised (e.g. mentoring) under this Accord for gaining or maintaining either signatory or provisional status.
6. Such costs shall be reimbursed via the organisations with whom the person is affiliated or, with the agreement of the organisation, directly to the person.
7. Arrangements shall be made by the host acting in agreement with the person travelling.
8. The cost basis shall be that air travel shall be by economy class except that flights exceeding 8 hours duration or overnight shall be by business class, and that accommodation shall be fully serviced 3 Star plus to 4 Star level.

SECTION C – GUIDELINES

1. GRADUATE PROFILE EXEMPLARS

The following table provides profiles of graduates of three types of tertiary education programmes. Definitions follow in a second table.

	Differentiating Characteristic	for Washington Accord Graduate	for Sydney Accord Graduate	for Dublin Accord Graduate
1	Academic Education	Completion of an accredited program of study typified by four years or more of post-secondary study.	Completion of an accredited program of study typified by three years or more of post-secondary study.	Completion of an accredited program of study typified by two years or more of post-secondary study.
2	Knowledge of Engineering Sciences	Breadth and depth of education and type of knowledge, both theoretical and practical	Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialisation to the conceptualisation of engineering models.	Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialisation to wide practical procedures and practices.
3	Problem Analysis	Complexity of analysis	Identify, formulate, research literature and solve <i>complex</i> engineering problems reaching substantiated conclusions using first principles of mathematics and engineering sciences.	Identify and solve <i>well-defined</i> engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity.
4	Design / development of solutions	Breadth and uniqueness of engineering problems i.e. the extent to which problems are original and to which solutions have previously been identified or codified	Design solutions for <i>complex</i> engineering problems and <i>design</i> systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.	Design solutions for <i>well-defined</i> technical problems and assist with the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
5	Investigation	Breadth and depth of investigation and experimentation	Conduct investigations of <i>complex</i> problems including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.	Conduct investigations of <i>well-defined</i> problems; locate and search relevant codes and catalogues, conduct standard tests and measurements.

	Differentiating Characteristic	for Washington Accord Graduate	for Sydney Accord Graduate	for Dublin Accord Graduate
6	Modern Tool Usage	Level of understanding of the appropriateness of the tool	Create, select and apply appropriate techniques, resources, and modern engineering tools, including prediction and modelling, to complex engineering activities, with an understanding of the limitations.	Apply appropriate techniques, resources, and modern engineering tools to well-defined engineering activities, with an awareness of the limitations.
7	Individual and Team work	Role in and diversity of team	Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.	Function effectively as an individual, and as a member in diverse technical teams.
8	Communication	Level of communication according to type of activities performed	Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.	Communicate effectively on well-defined engineering activities with the engineering community and with society at large, by being able to comprehend the work of others, document their own work, and give and receive clear instructions
9	The Engineer and Society	Level of knowledge and responsibility	Demonstrate understanding of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering practice.	Demonstrate knowledge of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technician practice.
10	Ethics	No differentiation in this characteristic	Understand and commit to professional ethics and responsibilities and norms of engineering practice.	Understand and commit to professional ethics and responsibilities and norms of technician practice.
11	Environment and Sustainability	No differentiation in this characteristic	Understand the impact of engineering solutions in a societal context and demonstrate knowledge of and need for sustainable development.	Understand the impact of engineering solutions in a societal context and demonstrate knowledge of and need for sustainable development.
12	Project Management and Finance	Level of management required for differing types of activity	Demonstrate a knowledge and understanding of management and business practices, such as risk and change management, and understand their limitations.	Demonstrate an awareness of management and business practices, such as risk and change management.

	Differentiating Characteristic	for Washington Accord Graduate	for Sydney Accord Graduate	for Dublin Accord Graduate
13	Lifelong learning characteristic	Recognise the need for, and have the ability to engage in independent and life-long learning.	Recognise the need for, and have the ability to engage in independent and life-long learning.	Recognise the need for, and have the ability to engage in independent and life-long learning.

COMMON RANGE AND CONTEXTUAL DEFINITIONS

Range of Problem Solving

Attribute	Complex Problems	Broadly-defined Problems	Well-defined Problems
1 Preamble	Engineering problems which cannot be resolved without in-depth engineering knowledge and having some or all of the following characteristics:	Engineering problems having some or all of the following characteristics:	Engineering problems having some or all of the following characteristics:
2 Range of conflicting requirements	Involve wide-ranging or conflicting technical, engineering and other issues	Involve a variety of factors which may impose conflicting constraints	Involve several issues, but with few of these exerting conflicting constraints
3 Depth of analysis required	Have no obvious solution and require abstract thinking, originality in analysis to formulate suitable models	Can be solved by application of well-proven analysis techniques	Can be solved in standardised ways
4 Depth of knowledge required	Requires in-depth knowledge that allows a fundamentals-based first principles analytical approach	Requires knowledge of principles and applied procedures or methodologies	Can be resolved using limited theoretical knowledge but normally requires extensive practical knowledge
5 Familiarity of issues	Involve infrequently encountered issues	Belong to families of familiar problems which are solved in well-accepted ways;	Are frequently encountered and thus familiar to most practitioners in the practice area
6 Level of problem	Are outside problems encompassed by standards and codes of practice for professional engineering	May be partially outside those encompassed by standards or codes of practice	Are encompassed by standards and / or documented codes of practice
7 Extent of stakeholder involvement and level of conflicting requirements	Involve diverse groups of stakeholders with widely varying needs	Involve several groups of stakeholders with differing and occasionally conflicting needs	Involve a limited range of stakeholders with differing needs
8 Consequences	Have significant consequences in a range of contexts	Have consequences which are important locally, but may extend more widely	Have consequences which are locally important and not far-reaching
9 Interdependence	Are high level problems possibly including many component parts or sub-problems	Are parts of, or systems within complex engineering problems	Are discrete components of engineering systems

Range of Engineering Activities

Attribute	Complex Activities	Broadly-defined Activities	Well-defined Activities
1 Preamble	Complex activities means (<i>engineering</i>) activities or projects that have some or all of the following characteristics:	Broadly defined activities means (<i>engineering</i>) activities or projects that have some or all of the following characteristics:	Well-defined activities means (<i>engineering</i>) activities or projects that have some or all of the following characteristics:
2 Range of resources	Involve the use of diverse resources (and for this purpose resources includes people, money, equipment, materials, information and technologies)	Involve a variety of resources (and for this purposes resources includes people, money, equipment, materials, information and technologies)	Involve a limited range of resources (and for this purpose resources includes people, money, equipment, materials, information and technologies)
3 Level of interactions	Require resolution of significant problems arising from interactions between wide-ranging or conflicting technical, engineering or other issues,	Require resolution of occasional interactions between technical, engineering and other issues, of which few are conflicting	Require resolution of interactions between limited technical and engineering issues with little or no impact of wider issues
4 Innovation	Involve creative use of knowledge of engineering principles in novel ways.	Involve the use of new materials, techniques or processes in innovative ways	Involve the use of existing materials techniques, or processes in new ways
5 Consequences to society and the environment	Have significant consequences in a range of contexts	Have consequences that are most important locally, but may extend more widely	Have consequences that are locally important and not far-reaching
6 Familiarity	Can extend beyond previous experiences by applying principles-based approaches	Require a knowledge of normal operating procedures and processes	Require a knowledge of practical procedures and practices for widely-applied operations and processes

2. APPLYING FOR PROVISIONAL STATUS

11.1 PRELIMINARY STEPS PRIOR TO MAKING APPLICATION

1. An applicant wishing to become a signatory should first contact the secretariat.
2. The secretariat will provide the necessary documentation on procedures and will invite the applicant to provide an application fee and preliminary documentation on its accreditation / recognition system. The applicant will be informed that a mentoring service is available should they want to make use of it.
3. The secretariat will provide the preliminary documentation to the Committee for evaluation. If in their opinion it does not appear to be compatible with the Requirements, the Committee will advise the applicant that its system differs from the Requirements in certain fundamental respects (to be indicated) and determine whether the applicant wishes to undertake the major development work and pursue its application further when it believes the issues identified have been addressed.
4. If the documentation appears to the Committee to be compatible with the Requirements and, if it is the wish of the applicant, the Committee may assign a team of two or three signatories to act as Mentors to assist the applicant in progressing towards provisional status.
5. When the applicant chooses to proceed with its application for Provisional status, having worked or not with mentors, it will request two of the existing signatories to act as Nominators.
6. When potential Nominators consider the applicant's accreditation / recognition system approaches and has the potential to achieve the Requirements, they should inform the applicant that they are prepared to act as Nominators.
7. There is no obligation on applicants to ensure that all signatories are familiar with the applicant's accreditation / recognition system. However, in addition to the nominators, up to three further signatories should have had the opportunity to become familiar with the accreditation / recognition system prior to the application being considered.

11.2 DOCUMENTATION IN SUPPORT OF APPLICATIONS

The applicant must meet all the requirements set out in the Rules and Procedures (Section B). The documentation provided on the accreditation / recognition system should include the following sections:

I ACCREDITING / RECOGNISING ORGANISATION

Provide the name of the organisation. List the names of the officers of the organisation with brief CVs. Describe the affiliations of the organisation with other engineering bodies, government and industry within the jurisdiction.

II INTRODUCTION

Provide general information about the jurisdiction and the context of engineering.

III EDUCATION

Provide a description of primary, secondary and tertiary education. Describe the nature of programmes, including admission standards. Provide the number and type of engineering institutions and programmes. Indicate whether the institutions are public or private.

IV STRUCTURE OF THE ENGINEERING COMMUNITY

Describe the context of engineering practice and the degree of regulation (i.e. registration vs licensing). Describe if there a protected title and scope of practice. Describe any differing categories of engineering practitioners and their academic requirements. Describe the relationship of the organisation to licensing, registration or certifying agencies, and the extent to which the organisation can influence the acceptance of accreditations / recognition by those agencies.

V ROLE OF ACCREDITATION / RECOGNITION

Describe the role of accreditation / recognition in registration. Given that accreditation / recognition is normally voluntary, describe the degree of participation.

VI ACCREDITATION / RECOGNITION SYSTEM

Describe the development of the accreditation / recognition system and its maturity. Provide a description of the Accreditation / Recognition Board including its composition and authority. List the objectives of accreditation / recognition. Provide the criteria for accreditation / recognition (general, program specific; curriculum content – technical and non-technical; incorporation of practical experience; length of the program; naming of the program; faculty requirements). Provide details for conducting the accreditation / recognition evaluation and making the accreditation / recognition decision; include relevant documentation (initiation of visit; self-evaluation questionnaire; selection of evaluation team; organisation of the visit; due process). Provide a list of currently accredited / recognised programs and a schedule of upcoming evaluations. Describe relationships with external engineering organisations including any agreements.

11.3 GUIDELINES TO ASSIST IN EVALUATION OF APPLICATIONS

Assessing substantial equivalence is a complex matter. The experience of the existing signatories is that an assessment based on documentation is only a first step – necessary but not sufficient. Confidence can only be achieved through a detailed evaluation, including close interaction and planned visits to observe accreditation / recognition procedures.

In particular, it is difficult to define on paper the standard to which graduates must be able to exercise the required attributes. The same words can embrace a wide range of standards.

Documentation can describe criteria and procedures; but standards can only be reliably judged by experienced people through live interaction. Therefore applicants must give the opportunity for the nominators, and some other signatories to be present at key decision points where the quality of student learning is evaluated against accreditation / recognition criteria.

Ultimately, the applicant must demonstrate that the level and content of the studies of accredited / recognised programmes are substantially equivalent to those of the current signatories. Therefore, the program must be offered at an appropriate tertiary-level institution. The duration of academic formation will normally be at least sixteen years (Washington Accord), fifteen years (Sydney Accord) and 13 years (Dublin Accord).

Accreditation / recognition systems should adhere to the following general characteristics:

1. The signatories to the Accord must be authorities, agencies or institutions which are representative of the engineering community and which have statutory powers or recognised professional authority for accrediting programs designed to satisfy the academic requirements for admission to practicing status (e.g. licensing, registration or certification) within a defined jurisdiction (e.g. country, economy, geographic region).

2. Any such authority, agency or institution must be independent of the educational providers delivering accredited programs within their jurisdiction.
3. An accreditation / recognition system must be in place with well-documented accreditation / recognition procedures and practices. Accreditation / recognition of programmes is expected to conform to generally accepted principles such as:
 - a. The system must operate at all times in accordance with high standards of professionalism, ethics and objectivity;
 - b. The process must be transparent and consistent and the activities in relation to individual programs must be conducted in confidence;
 - c. Those involved in the accreditation / recognition process must have access to knowledge and competence in matters related to engineering accreditation / recognition, engineering education and engineering practice.
 - d. Accreditation / recognition is of individual programs or of coordinated groups of programmes quality-assured as a whole.
 - e. Evaluations of programs are conducted by peer reviewers and include a self-evaluation and site visit.
 - f. The criteria for accreditation / recognition should include requirements for:
 1. a suitable environment to deliver the program;
 2. adequate leadership for the program;
 3. suitably qualified engineering practitioners teaching in the program;
 4. an engineering curriculum providing a broad basis for engineering practice;
 5. appropriate entry and progression standards;
 6. adequate human, physical and financial resources to support the program.
 - g. The process should include periodic re-evaluation to maintain accreditation / recognition status.

12. MENTORING

An increasing number of jurisdictions are expressing interest in being part of one or more international agreements that have as their main purpose the international benchmarking of engineering education or engineering practice standards.

Accord members, when requested by the secretariat, are willing to provide support, advice and guidance through a mentoring system to jurisdictions that are anticipating making formal application for provisional or full member status to an Accord.

12.1 PRINCIPLES

1. It is up to each organisation to decide whether they would like to participate in the Accord mentoring process.
2. Organisations must formally request the Committee to appoint mentors by lodging a request with the secretariat.
3. Mentoring relationships are set up for a set purpose and for a set period of time. The purpose and time period should be negotiated between the mentee and the mentor and approved at their first meeting.
4. Mentoring is separate from the processes of applying for provisional status or review for becoming a signatory. Having participated in a mentoring relationship will not guarantee a mentee successful admission to an Accord either at the level of holding provisional status or becoming a signatory.
5. Mentors are acting on behalf of the relevant Accord. They must perform their duties in a professional and timely manner and must keep the Committee informed of the agreed terms of reference of the mentoring relationship, when and what mentoring activities have been undertaken.
6. The advice provided by the mentor is confidential to the mentee, mentor and the mentor signatories.
7. There will be free and unfettered disclosure to each other by both the mentor and the mentee.

12.2 APPOINTMENT OF MENTORS

1. On receipt of a formal request from an organisation for mentoring, the Committee will allocate two or three signatories that will each be expected to identify an appropriate person to represent them on the mentoring team. Each representative must be knowledgeable of the accreditation / recognition systems and engineering education standards within their own jurisdiction.
2. When allocating mentor signatories the Committee will take cognisance of the size of the organisation to be mentored. There should be at least one representative on the mentoring team whose home organisation is of equivalent size and composition. Cognisance should also be taken of the geographical closeness of the mentor signatories to the organisation to be mentored.

12.3 REPORTING

12.3.1 Mentor to Mentee

Mentors may advise the mentee verbally and in writing. The advice is confidential to the mentors, the mentee and the mentors' own organisations.

The report must be able to be discussed by the mentors with the Accreditation / Recognition Approval Board within their home organisations for quality assurance to ensure consistency of approach.

The report may only be released by the mentor signatories, to third parties, including the Committee, by permission of the mentee.

A professional / accreditation / recognition body seeking provisional membership that had been mentored could include mentoring reports in the written information they provide to demonstrate that their accreditation / recognition systems and standards are substantially equivalent to those of other signatories.

12.3.2 Mentor Report to Accord signatories

Mentors will provide the secretariat with an annual report to be distributed to signatories stating:

- the agreed terms or reference of the mentoring relationship;
- the facts of mentor visits to the organisation of the mentee e.g. dates of visits, activities undertaken during the visit;
- a general statement as to progress toward provisional or full member status.

12.4 CONSULTANTS

Professional / accreditation / recognition bodies sometimes contract the services of a consultant to provide them with support in the development of accreditation / recognition systems and qualification standards. These consultants are paid a fee for their services and are not recognised as representatives of the signatories of the Accords. If a professional / accreditation / recognition body chooses to contract the services of a consultant they must do so at their own risk. If a signatory is providing consultancy support to a professional / accreditation / recognition body they must inform other signatories of the relevant Accord so as to declare any pecuniary interest.

12.5 MENTORING PROVIDED BY INDIVIDUAL SIGNATORIES

Professional / accreditation / recognition bodies often approach signatories directly to request support through a mentoring arrangement. If signatories accept this request then they must inform the secretariat so that other signatories are made aware of the private mentoring arrangement. The Accord, as a whole, cannot be responsible for the quality of advice and support provided through this private mentoring arrangement, which has not been approved by the Committee nor coordinated through the secretariat.

13. APPLYING TO BECOME A SIGNATORY

1. During the period of Provisional status, it shall be open to all signatories to visit the applicant at their own cost, but this is not a requirement, nor part of the review process.
2. As stated in Section 2.2 of the Rules and Procedures, when the applicant requests, the Committee will assign three signatories as Reviewers to examine and report on the applicant system and to recommend to the signatories, when they are satisfied that the Requirements for becoming a signatory are met.
3. The Reviewers will evaluate the systems of the applicant in a similar fashion to that stipulated as Periodic monitoring for the conduct of a periodic review visit of an existing signatory.

4. However, in addition to the criteria set out in that Procedure, the Reviewers must consider whether
 - a. the accreditation / recognition system is well established (normally with at least one program having gone through a full accreditation / recognition cycle and being re-evaluated) and
 - b. a substantial proportion of its programmes offered have been evaluated under the system as described.
 - c. organisations holding provisional status, may seek guidance from their mentors (if any) and the Committee as to how soon during their granted period of provisional status they might apply for review.
5. The Reviewers must ensure that they observe visits to a representative cross-section of institutions, and also observe the accreditation / recognition process for a range of decisions.
6. The expected characteristics of an accreditation / recognition system and criteria for accreditation / recognition, including the attributes expected of engineering graduates, are set earlier in Section C. If an applicant's system appears on paper to be substantially equivalent to those of the relevant Accord, tests of the system in operation might then be:-
 - a. Is the accreditation / recognition system similar in methods and means of delivery to the systems of other signatories? Performance indicators / key attributes:
 - Has a clear definition of academic quality in the context of its mission
 - Is non-governmental
 - Accredits / recognises programs at institutions that have legal authority to confer higher educational degrees / qualifications
 - Has official, written policies and procedures that are available to the institutions and to the public
 - Has a process that includes a self-evaluation by the institution and the program seeking accreditation / recognition
 - Has an on-site review by a visiting team comprised of peers
 - Demonstrates independence from any parent organisation or entity in its policy-setting and decision-making process
 - Publishes or makes available to the public a list of accredited / recognised programs
 - Requires a periodic review of accredited / recognised programs
 - b. Is there a clearly defined and published scope of activity for the organisation? Performance indicators / key attributes:
 - What degree programs / qualifications are recognised (undergraduate, graduate,)?
 - Are there geographic bounds?
 - What disciplines are recognised (engineering, engineering technology, computing, etc.)?
 - c. Does the organisation demonstrate the use of appropriate and fair procedures in decision making? Performance indicators / key attributes:
 - Is the organisation subject to interference from professional organisations, societies, special interest groups or government?
 - Within the accrediting / recognising organisation, is there a separation of those who establish accreditation / recognition policy and those who make accreditation /

- recognition decisions?
- o Has written standards, criteria, policies and procedures for the evaluation of programs.
 1. Are these publicly available?
 2. Is there a process for public comment or review?
 - o Accreditation visits are conducted in accordance with the documentation
 - o Applies standards and criteria in a consistent and fair manner from institution to institution, program to program and year to year.
 - o Provides a written report to the institution that clearly distinguishes between actions required for accreditation / recognition and actions recommended for academic program improvement.
 - o Visit reports provide sufficient detail for the Accreditation / Recognition Board (or equivalent) to make informed decisions whether or not to accredit particular programs, or to impose conditions
 - o The Board demonstrates a capacity to make difficult decisions in a way likely to be beneficial to the engineering community in the longer term
 - o Has a process for appealing adverse accreditation / recognition decisions
 - o Has a clear conflict of interest policy for all involved in the accreditation / recognition process including visiting teams, accreditation / recognition decision-makers and policy-makers
 - o Are the procedures capable of addressing unusual circumstances in a perceptive way, and is this illustrated in practice?
- d. Does the organisation have the capacity to conduct accreditation / recognition activities on an ongoing basis? Performance indicators / key attributes:
- o Has sufficient staff and financial resources to implement and sustain an effective accrediting / recognising process
 1. How is the organisation financed?
 2. What is the outlook for financial viability?
 - o Has an effective process for the recruitment, selection, training & evaluation of program evaluators / visitors
 1. How are evaluators selected?
 2. Are there written training materials?
 3. What is process for evaluation?
 4. Does the visiting team pool include engineering practitioners as well academicians
 - o Conducts periodic self-review to improve its standards, criteria, policies and procedures.
- e. Does the operating documentation focus attention on the fundamental criteria for accreditation / recognition? Performance indicators / key attributes:
- o The required graduate attributes are documented in a way that is clearly evident to the educational provider concerned, and the required attributes are substantially equivalent to the Accord exemplar
 - o The criteria translate into procedures that evaluate in depth the outcomes of each program and how they are assured
- f. Ultimately, as an overarching test, is the outcome standard, as evaluated by existing

signatories during live observation and interaction, consistent with that represented by relevant Accord?

14. PERIODIC MONITORING

1. Monitoring teams must embody a range of expertise and must include at least one academic and one industrial representative. According to the Accord Rules and Procedures, the Committee must select at least three members for the Monitoring Team and normally at least two will physically take part in the visit.
2. In selecting the Monitoring Team, the Committee as well as the secretariat must be cognisant of any activities that may impede individuals from participating due to conflict of interest.
3. The chair of the Monitoring Team must be appointed by the Committee at the time of notification of the team composition.
4. Confirmation of substantial equivalency should be based on visits to at least two educational providers including a total of at least four programs undergoing evaluation. In addition, at least one team member shall attend a meeting of the accreditation / recognition board or other body responsible for final accreditation / recognition actions.
5. Design of a typical visit: In order to make most efficient use of time and to ensure timely production of the report the following procedures should be adopted:
 - a. A copy of the most recent monitoring report will be made available to the monitoring team.
 - b. The monitoring team should meet one day prior to the first visit to review data, determine aspects to be examined in more detail, outline the report structure, allocate individual team member responsibilities and meet with the host signatory to obtain background information and clarify the accreditation / recognition systems and the visit programme.
 - c. The visit or visits accompanying the accreditation / recognition panels shall take place in accordance with the protocols below.
 - d. A post-visit team meeting to structure the report and if possible prepare it in outline
 - e. The monitoring team should visit the office of the national agency administering the engineering accreditation / recognition process
 - f. The monitoring team should return to observe the decision making meeting of the accreditation / recognition agency unless the team determines that such a visit shall be made only by the team chair.
6. In general the protocols to be observed by the monitoring team during the visit should be:
 - a. The team should be non-participatory observers.
 - b. The team should refrain from making comments on the procedures or outcomes during the visits and only comment to the accreditation / recognition panel when requested to do so, after visits have been concluded and the intended recommendations made known to the universities concerned.
 - c. When necessary and in order to achieve complete coverage the team should split to accompany accreditation / recognition sub-panels according to the individual specialisation of the team members.
 - d. The team may participate in the discussions with students as their questions in these forums may assist the team to understand the educational culture and student perceptions. This is judged to not unduly influence the accreditation / recognition process.
 - e. A draft team report must be submitted to the accreditation / recognition agency being reviewed to ensure correctness as to matters of fact.

14.1 CONTINUOUS MONITORING

There are no additional guidelines applying to Continuous monitoring.

14.2 GENERAL PROTOCOLS APPLYING TO BOTH REVIEW PROCEDURES

1. Protocols to be observed for non English speaking organisations where the monitoring team members are not fluent in the language of the jurisdiction being reviewed:
 - a. English translations shall be provided of the key parts of the pre-visit documents for each visit that is to be observed and must include sufficient information for the observers to become familiar with the observed institutions, programs, and visiting teams.
 - b. For Periodic monitoring: a single translator at each visited program shall be provided. The selection of translators is an important issue. The accreditation / recognition organisation being observed should be responsible for that selection, but should select individuals who, in addition to having good language skills and a knowledge of the accreditation / recognition process, agree to hold a neutral position with regard to the observation process
 - c. When multiple programs are to be observed at the same institution, it is recommended that the monitoring team remain as a group with their translator, but that they time-share their participation among the multiple visiting panels.
 - d. For Continuous monitoring: translators must be provided for each panel on which there is an international monitor.
2. At the conclusion of a visit to a given signatory(periodic monitoring) or prior to the end of a monitoring period for a signatory (continuous monitoring), the Monitoring Team shall prepare a report with recommendations for the secretariat that, in turn, shall be distributed to the other signatories. The report shall be submitted no less than 90 days prior to the next biennial meeting of the Accord signatories.
3. The Final Report shall include:
 - a. An executive summary outlining major system characteristics and citing recommended action with the appropriate action statement.
 - b. An overall introduction to accreditation / recognition system under review and its standards
 - c. Information on accreditation / recognition policies / procedures and criteria for the system under review, including a comprehensive analysis of how the accreditation / recognition process addresses marginal, difficult conditional actions
 - d. A brief description of the educational provider and a listing of the programmes and results in order set the context for the review
 - e. Information on the conformity of the system with its own published accreditation / recognition policies and procedures
 - f. Indications of any stated or observed substantial change to the accreditation / recognition criteria, policies or procedures of the system under review and the rationale for the change
 - g. A statement as to whether the standard of the graduates of accredited / recognised programs are substantially equivalent to graduates of other Accord signatories.
 - h. Any statement of weakness or deficiency. A weakness indicates that the accreditation / recognition system is satisfactory but lacks the robustness that assures that the quality of the system not be compromised prior to the next general review. A deficiency indicates that the processes, policies and procedures for granting accreditation / recognition to programmes have been examined and found not to be equivalent to

comparable practices of other signatories that assess the quality of programmes. This action changes the signatory's status to that of conditional as defined in Part 1 of Section B.

- i. Recommended action to the Accord signatories in accordance with Part 3.6 of the Rules and Procedures
4. Review reports may be not be communicated to any signatory except through the secretariat except that the draft reports may be submitted by the reviewers to their home organisations for the purposes of quality assurance and advice and to the agency being reviewed, but solely to ensure factual accuracy.
5. In Continuous monitoring, the Overall Monitoring Report shall additionally focus on the remedial actions taken by the signatory to address the deficiencies or weaknesses cited by the earlier Monitoring Teams and shall be submitted to the secretariat.
6. Conditional status of a signatory means that:
 - the signatory must upgrade its policies and procedures to meet the Accord requirements within a specified period
 - the monitoring report will specify what further report or visit will be required to confirm the satisfactory upgrading of policies and procedures
 - these reports shall be received before the end of the defined period
 - graduates who complete academic degrees during the period of conditional status will not be recognised
 - the status as a signatory will be revoked unless the upgrading requirements are met.

15. FULFILLMENT OF ACCORD ADMINISTRATIVE AND PROCEDURAL OBLIGATIONS

15.1 BI-ANNUAL REPORTING BY SIGNATORIES

1. Each Accord places obligations on signatories including that signatories will make every reasonable effort to ensure that the bodies responsible for registering or licensing members to practice in its jurisdiction accept the substantial equivalence of programs accredited by the signatories to the Accord.
2. Accordingly, at each biannual meeting of an Accord, each signatory is required to submit a written report on fulfilment of its obligations. This report must be submitted to the secretariat at least 90 days prior to the meeting. The report shall include:
 - a. Updated contact information
 - b. Updated key personnel
 - c. Updated accreditation / recognition information
 1. Any changes in the scope of accreditation / recognition
 2. Changes in accreditation / recognition standards / criteria
 3. Number of currently accredited / recognised programs (as at 30 June in the year of the bi-annual meeting)
 4. Number of other accredited programs to which Accord recognition does not apply
 5. Overview of the accreditation / recognition visit programme – frequency of visits and scope of programme for the next six years (comprehensive and provisional accreditation / recognition)
 - d. Any recent major activities
 - e. Any changes in operating environment
 - f. Updated statement of fulfilment of signatory obligations to other signatories
 1. Any changes in the structure of the licensing / registration / regulatory system for provision of engineering services within the jurisdiction of the signatory
 2. Changes in the licensing / registration / regulatory / membership bodies
 3. Changes in the relationship of the signatory with the relevant licensing / registration / regulatory / membership bodies
 4. Credit given to graduates of programmes accredited / recognised by the signatory in the licensing / registration / regulatory / membership processes within the jurisdiction
 5. Credit given to graduates of other Accord signatories in the licensing / registration / regulatory / membership processes within the jurisdiction
 - g. A copy of a statement that can be widely publicised by other signatories stating the level of recognition that the relevant licensing / registration / regulatory / membership bodies are presently providing to graduates of programmes of other signatories.
 - h. The experiences of graduates of programmes accredited by the signatory in seeking recognition of their engineering education within the jurisdictions of other signatories.

15.2 BI-ANNUAL REPORTING BY ORGANISATIONS HOLDING PROVISIONAL STATUS

1. At each biannual meeting of an Accord, organisations holding provisional status are required to submit a written report. This Report must be submitted to the Secretariat 90 days prior to the meeting. The report shall include:
 - a. Updated contact information
 - b. Updated key personnel c. Updated accreditation / recognition information
 1. Any changes in the scope of accreditation / recognition
 2. Changes in accreditation / recognition standards / criteria
 3. Number of currently accredited / recognised programs (as at 30 June in the year of the bi-annual meeting)
 4. Number of other accredited programs to which Accord recognition does not apply
 5. Overview of the accreditation / recognition visit programme – frequency of visits and scope of programme for the next six years (comprehensive and provisional accreditation / recognition)
 - c. Any recent major activities
 - d. Any changes in operating environment
 - e. Updated statement on the potential ability to fulfil obligations to signatories if admission as a signatory was to occur in the future:
 1. Any changes in the structure of the licensing / registration / regulatory system for provision of engineering services within the jurisdiction of the signatory
 2. Changes in the licensing / registration / regulatory / membership bodies
 3. Changes in the relationship of the signatory with the relevant licensing / registration / regulatory / membership bodies
 4. Credit given to graduates of programmes accredited / recognised by the signatory in the licensing / registration / regulatory / membership processes within the jurisdiction
 5. Credit already given to graduates of Accord signatories within the licensing / registration / regulatory / membership processes within the jurisdiction

15.3 ISSUE RESOLUTION

1. In cases where it comes to the attention of a particular signatory that graduates of programmes accredited by that signatory have not been accorded the same level of recognition by a licensing / registration / regulatory / membership body within a jurisdiction as graduates from programmes accredited / recognised by the signatory within that jurisdiction then the signatory concerned must notify the signatory responsible for the jurisdiction within which the lack of recognition has occurred, and request the latter to undertake actions to resolve the issue.
2. If, in the view of the aggrieved signatory, reasonable opportunity has been given but the matter has not been satisfactorily resolved then the aggrieved signatory may request an issue resolution session, open only to signatories, where issues on implementation of an Accord can be raised in a solution-focused environment. Prior to an issue being accepted for discussion, it must be demonstrated that substantive discussions leading up to the meeting were undertaken but issues were not able to be resolved. Both individual cases and trends or systemic issues may be raised.

3. Requests for an issue resolution session, with supporting documentation, shall be submitted to the Committee at least 60 days prior to an Accord meeting, and the Committee, after communicating with both signatories concerned must make a decision as to whether to proceed to hold the session, at least 30 days prior to the meeting. The secretariat shall circulate the notice of the session and the relevant documentation immediately the Committee has decided to schedule the issue resolution session. In instances where the signatory is not the licensing or registration body, the signatory is expected to provide evidence of procedures and processes that it has undertaken to encourage full implementation of the Accord in their jurisdiction.
4. If a number of signatories can provide substantive evidence of failure of a signatory to meet its Accord obligations, they may choose to invoke the provisions under Rule 4.3 Termination for Failure to Meet Obligations as a Signatory.

16. PRINCIPLES OF GOOD PRACTICE FOR ACCORD SIGNATORIES WORKING INTERNATIONALLY

These principles are intended to provide a generally accepted framework for undertaking reviews in jurisdictions where there is no organisation that is a signatory of the relevant Accord. They are intended to strengthen the international stature of the Accord Agreement, strengthen the working relationship among Accord signatories and international quality assurance agencies, and encourage and enhance ongoing cooperation and communication.

Principle 1: Considerations for Accord Signatories When Determining to Undertake Quality Assurance Evaluations in another Jurisdiction not a member of the Accord

Accord signatories will:

- Affirm their organisational capacity to undertake a review (e.g., language, trained staff and evaluators, budget, experience, basic information about the jurisdiction);
- Clarify the relationship of international review activity to the priorities of the accrediting organisation;
- Communicate with other Accord signatories about international review activity;
- Promulgate a clear statement of the scope of the evaluation and the use of the recognition status by an institution or program in another jurisdiction, especially with regard to transfer of credit and degree and qualifications equivalency;
- Assure clear understanding of the relationship of the review to any international agreements that address quality assurance.

Principle 2: Expectations for Conduct of Evaluation Reviews Abroad

Accord signatories will:

- Inform jurisdiction quality assurance agencies in jurisdictions where reviews are undertaken and, where appropriate, seek information, guidance, and concurrence from these agencies;
- Communicate with rectors and other college and university officials at institutions where they are conducting reviews;
- Assure that staff and evaluators are adequately informed about higher education and quality assurance in the jurisdictions in which they are conducting reviews to preclude the appearance of cultural insensitivity;
- Communicate fully and clearly about costs and currencies associated with a review.

Principle 3: Quality Assurance of Online and Web-based Instruction and programs

Accord signatories will:

- Work as closely as possible with their institutional and programmatic exporters of online and web-based education to assure quality as offerings are made available in a variety of jurisdictions, especially when the offerings involve instructional strategies that are unfamiliar to the host jurisdiction;
- Urge that these exporters review language, literacy and study skills levels of the target audience for these offerings, preparing separate or supplemental material to meet special needs if appropriate.

Principle 4: Responsibilities to Students and Colleagues

Accord signatories will:

- Work with the appropriate agencies in non-signatory jurisdictions to provide the most comprehensive and accurate information available about educational services and programs to avoid the export of diplomas of questionable quality offered for a fee;
- Develop, in coordination with international colleagues, the appropriate protocol to assist non-signatory jurisdictions in reviewing educational imports from questionable provenance.

Principle 5: Working in Jurisdiction which are developing countries

Accord signatories will:

- When a signatory seeks approval to accredit programmes offered by providers in a non-Accord jurisdiction, a written agreement must be signed between the parties. This agreement put before the meeting of signatories when seeking approval to accredit.
- Recognition of programmes commences with accreditation visits subsequent to the formal approval by the Accord's signatories.
- Only one approved signatory will be chosen by the Accord signatories for a non-Accord jurisdiction.
- The approved signatory, with the assistance of other signatories as appropriate, may assist the jurisdiction to establish an accreditation system and mentor the jurisdiction to a point where it is ready to apply for provisional status. In such a case, a joint accreditation process may operate for a period.
- The approved signatory, with the assistance of universities with accredited programmes as appropriate, may assist a university in a jurisdiction that is a developing country that seeks recognition to improve its programmes to the level of substantial equivalence. The signatory's input would focus on creating an understanding of criteria acceptable to the Accord and the quality assurance process.

ENGINEERS MOBILITY FORUM

**The
International Register
of
Professional Engineers**

CONSTITUTION

**As Approved June 2003
Schedules Updated June 2005
Revised June 2007
Revised June 2009**

PREAMBLE

As a result of an agreement by the Washington Accord signatories to explore mutual recognition for experienced engineers, representatives of the engineering profession in each of the signatories to the Washington Accord, together with observers nominated by the European Federation of National Engineering Associations (FEANI), met in March 1996, and, with the addition of observers from the Japan Consulting Engineers Association, in January 1997.

The participants in these meetings, having exchanged information on, and made a preliminary assessment of, their respective processes, policies and procedures for granting recognition to experienced engineers, concluded that these were sufficiently comparable to justify further examination. They agreed on the broad principles of a framework which might enable progress towards removing artificial barriers to the free movement and practice of professional engineers amongst their countries. Agreement was reached on the principles and outline process by which the substantial equivalence in competence of experienced engineers could be established.

The participants recognised that such arrangements would only be fully effective if the controlling bodies within each country or territory accepted their validity, and streamlined the procedures for admission to practice in their jurisdictions for experienced engineers applying through the framework. The value of the proposed framework would depend upon the extent to which the participants were successful in building confidence within their own constituencies.

Progress was reported to the biennial meeting of the signatories to the Washington Accord, which was held in Washington DC on 27 and 28 October 1997. The signatories welcomed the progress that had been made and encouraged the relevant organisations to establish an independent forum in which the strategies that had been proposed could continue to be developed.

To that end, a further meeting of representatives from these organisations was convened on 29 October 1997 where it was agreed to establish a forum to be known as the Engineers Mobility Forum (EMF), and endorsed the preparation of the initial version of the Memorandum of Understanding, which was later ratified at a meeting in London in July 1998. At that time, the participants endorsed a draft of an Agreement to establish and maintain an EMF International Register of Professional Engineers as a basis for consultation within their respective constituencies.

Following a period of consultation in each of the relevant jurisdictions, at a meeting of the Forum in Sydney, Australia in November 1999, the participants agreed to effect certain amendments to the Memorandum of Understanding to permit a wider range of

organisations to become Members of the Engineers Mobility Forum. They further agreed to endorse the revised Memorandum of Understanding as a fair record of the outcomes of the meeting, and to seek formal ratification by the organisations which they represented. A Revised Draft of the Agreement to Establish and Maintain an International Register of Professional Engineers was tabled for consideration by the respective countries.

Following a period of further consultation, at a meeting of the Forum in Vancouver Canada in June 2000, the participants endorsed on the 16th June 2000 this second revision of the Memorandum of Understanding and a revised Final Draft of the Agreement to establish and maintain an EMF International Register of Professional Engineers for ratification by their respective constituencies.

Following ratification by all participant organisations of the Second Revision of the Memorandum of Understanding and the Final Draft Agreement, the Agreement was signed at Thornybush in South Africa on 25th June 2001.

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.

Nothing in the arrangements for the Register is intended to limit the rights of any Member organisation to conclude bilateral or multilateral agreements with any other organisations on different terms from those implied by the requirements for entry to the International Register of Professional Engineers.

At the meeting in South Africa in June 2001, it was further agreed to bring together the Memorandum of Understanding and the Agreement into one document. This Constitution is the result of that consolidation and, as far as possible, uses the same wording as the original documents.

The Constitution was approved at the General Meeting of the EMF held at Rotorua New Zealand on 14th June 2003 and Schedule 3 of the Constitution, the amended Rules for the International Register Coordinating Committee were approved by that Committee at its meeting held at Rotorua New Zealand on 15th June 2003.

At the General Meeting of the EMF held at Cyberport, Hong Kong on 16th June 2005, Schedule 3 was amended and Schedules 4, 5, 6 and 8 were approved. The International Register Coordinating Committee, at its meeting in Hong Kong, approved Schedule 7. At the General Meeting of the EMF held at Washington DC, USA on 21st June 2007, a new Schedule 4 was approved, and subsequent Schedules renumbered. The term

'Executive Committee' was introduced to clearly distinguish the Chair and Deputy Chair of the EMF from the newly appointed Secretariat, Clause 6 of the Constitution was expanded to include a formalised appointment procedure for the Chair and Deputy Chair, and a new clause 16 was approved and subsequent clauses renumbered.

At the General Meeting of the EMF held in Kyoto, Japan on 17th June 09 additions were made to provide for application and annual fees in accordance with the multi party agreement of the International Engineering Alliance, a new Schedule 11 was added to refer to the engineer portions of the IEA document "Graduate Attributes and Professional Competencies" adopted by the EMF, Schedule 8 had clauses added to clarify certain issues relating to the review process and added a further item relating to codes of conduct to the list of criteria required to be fulfilled, a new Schedule 10 was added for nominations of reviewers, and a new Schedule 9 was added for the format of Biennial Reports. Minor amendments were made for the notice required for nominations for chair and deputy chair in line with other agreements, the period of downgrade of a Full Member following any resolution for suspension or termination of authorisation was defined, and minor amendments were made to Schedules 3, 4 and 5.

CONTENTS

	<u>Page</u>
Preamble	2
Engineers Mobility Forum	
1. Purpose of the EMF	7
2. Objectives of the EMF	7
3. Membership of the EMF	8
4. Admission of New Members, Observers and Visitors	8
5. General Meetings of the EMF	9
6. Chair and Deputy Chair	9
7. Secretariat	11
8. Rules and/or Procedures for the EMF	11
9. Changes to the Constitution	12
10. Annual Fees	12
11. Termination of the EMF	12
International Register Committee	
12. International Register of Professional Engineers	13
13. International Register Coordinating Committee	13
14. Membership of the Coordinating Committee	15
15. Transfer from Provisional Member to Full Member	15
16. Monitoring Committees and Operation of the Register	16
17. Granting Rights of Practice and the Use of Multilateral and Bilateral Agreements	17
18. General Meetings of the Coordinating Committee	17
19. Chair and Deputy Chair	17
20. Rules and/or Procedures of the Coordinating Committee	17
21. Termination of the Coordinating Committee	18
List of Schedules to the Constitution	6

SCHEDULES TO THE CONSTITUTION

- Schedule 1 Membership of the EMF**
- Schedule 2 Guidelines on Criteria and Procedures**
- Schedule 3 International Register Coordinating Committee: Rules**
- Schedule 4 Multilateral and Bilateral Agreements**
- Schedule 5 IntPE Protocol**
- Schedule 6 Guidelines for Admission as Provisional and Full Members**
- Schedule 7 Mentoring Guidelines**
- Schedule 8 Review Process Guidelines**
- Schedule 9 Format for Biennial Report**
- Schedule 10 Request for Review Panel Nominations**
- Schedule 11 Graduate Attributes and Professional Competencies**
- Schedule 12 Glossary of Key Terms**

ENGINEERS MOBILITY FORUM

1. PURPOSE OF THE ENGINEERS MOBILITY FORUM

- 1.1 The members of the Engineers Mobility Forum, herein after referred to as the EMF, aim to facilitate international mobility of experienced professional engineers by establishing a framework for their recognition based on confidence in the integrity of national assessment systems, secured through continuing mutual inspection and evaluation of those systems.
- 1.2 This Constitution therefore provides a framework within which the appropriate responsible body in an economy may, to the extent it considers appropriate, recognise the substantial equivalence in professional competence and standing of experienced professional engineers licensed, registered or otherwise deemed eligible for independent practice in another economy within which the member organisations have standing.
- 1.3 The members note that such registration will only be effective if the responsible bodies in the relevant economies accept the validity of the procedures and criteria through which substantial equivalence is established, and streamline the procedures for granting rights of practice in their economies to registrants applying through this mechanism.
- 1.4 The members will therefore use their best endeavours to ensure that responsible bodies in the economies within which they have standing use the International Register as a foundation upon which to streamline procedures to be adopted in dealing with applications by registrants based in the economies concerned.

2. OBJECTIVES OF THE EMF

- 2.1 The members of the EMF as the representatives of the relevant engineering organisations in their respective countries or territories agree that they will:
 - (1) develop, monitor, maintain and promote mutually acceptable standards and criteria for facilitating the international mobility of experienced professional engineers;
 - (2) identify, and encourage the implementation of, best practice for the preparation and assessment of engineers intending to practice at the professional level;
 - (3) continue mutual monitoring and information exchange by whatever means are considered most appropriate, including:
 - (a) regular communication and sharing of information concerning assessment procedures, criteria, systems, manuals, publications and lists of recognised practitioners;
 - (b) invitations to observe the operation of the procedures of other participants; and

- (c) invitations to observe meetings of any boards and/or commissions responsible for implementing key aspects of these procedures, and relevant meetings of the governing bodies of the participants;
- (4) establish a decentralised International Register of Professional Engineers which would provide a readily accessible framework for recognition by the responsible bodies of the substantial equivalence in the competence of experienced professional engineers from the participating economies;
- (5) seek to gain a greater understanding of the existing barriers to mobility and to develop and promote strategies to help governments and licensing authorities manage those barriers in an effective and non-discriminatory manner;
- (6) encourage the relevant governments and licensing authorities to adopt and implement mutual mobility procedures consistent with the standards and practices recommended by the signatories to such agreements as may be established by and through the EMF.

3. MEMBERSHIP OF THE EMF

- 3.1 **Full Members** are organisations responsible for registers of those professionally qualified engineers who have been assessed as eligible for independent practice within their own economy, and whose qualifications are based on academic achievement substantially equivalent to that of a graduate holding an engineering degree accredited by an organisation holding membership of the Washington Accord, and who have been granted interim or full authorization to maintain a section of the International Register.
- 3.2 **Provisional Members** are organisations with or in the course of developing registers of professionally qualified engineers in their own economies who intend to apply to be Full Members of the EMF. Admission as a Provisional Member does not imply and shall not be used to imply that any part of the organisation's register meets the requirements for Full Membership.
- 3.3 **Observers** are representatives of other groups, generally regional registers, which have an identity of interest with the EMF in the mutual recognition of professional engineering qualifications.
- 3.4 **Visitors** are organisations interested in the work of the EMF and who attend for one meeting.

4. ADMISSION OF NEW MEMBERS, OBSERVERS AND VISITORS

- 4.1 An organisation wishing to be a Provisional Member and/or an Observer must be nominated by two Full Members in writing, and will be accepted only upon a positive vote by at least two-thirds of the Full Members at a General Meeting of the EMF.
- 4.2 An organisation applying to be a Provisional Member will be required to pay an application fee to the Secretariat of the International Engineering Alliance (IEA) in terms of the Multi Party Agreement (MPA) of which the EMF is a signatory.

- 4.3 Visitors may be admitted with the agreement of the Executive Committee, as defined in clause 6.1.
- 4.4 No organisation, which is already represented on the EMF by or through an existing Full Member or Provisional Member, is entitled to apply to be a Provisional Member.

5. GENERAL MEETINGS OF THE EMF

- 5.1 A General Meeting of the EMF shall be held at least once every two years at a time and place selected by the Executive Committee in conjunction with the Secretariat following appropriate consultation with the members and with the office bearers of other similar International Bodies. The Secretariat shall give the Full Members, Provisional Members and Observers, at least six months notice of a General Meeting.
- 5.2 Items for discussion at a General Meeting are to be submitted to the Executive Committee at least three months prior to the meeting, and the agenda and business papers are to be distributed to the members at least two months prior to the meeting. Amendments to the agenda and late submission of supporting documentation may be adopted by a simple majority of Full Members present at the meeting. Consideration and/or finalisation of matters placed on the agenda by the meeting as contemplated above can be suspended and held over for the agenda of the next meeting if a procedural motion to this effect is adopted by a simple majority of Full Members present at the meeting.
- 5.3 Each Full Member, Provisional Member or Observer will endeavour to arrange for at least one representative to attend each General Meeting.
- 5.4 A written report must be submitted by each Full and Provisional Member to the Secretariat at least three months prior to a General Meeting and shall provide information as specified in Schedule 9.
- 5.5 Each participating organisation will be responsible for its own costs.

6. CHAIR AND DEPUTY CHAIR

- 6.1 The officer bearers of the EMF and the International Register Coordinating Committee shall be the Chair and the Deputy Chair, who shall be referred to collectively as the Executive Committee, and who shall be elected from nominations made by Full Member organisations that have a vote on the International Register Coordinating Committee.
- 6.2 The officer bearers act for the EMF and the International Register Coordinating Committee, and may not simultaneously represent or vote on behalf of any Full Member on any matter. For the avoidance of doubt, officer bearers are not included in the headcount of delegations from their Full Member organisation.
- 6.3 A person nominated must be affiliated with a Full Member organisation and have the support of that organisation.
- 6.4 The Chair and the Deputy Chair will normally come from different Full Member organisations.

- 6.5 Persons affiliated with the same Full Member as the incumbent would not normally be eligible for nomination to that position.
- 6.6 A person may hold office for no more than two terms, each term of two years (defined as the time between biennial general meetings) unless specifically agreed by a majority vote of those Full Members present at a general meeting. A term is completed at the end of the general meeting at which an election is held.
- 6.7 The Deputy Chair shall undertake the duties of the Chair if the Chair is unavailable for any length of time, or has declared a conflict of interest on any matter, and has temporarily stood down from the Chair whilst that matter is considered.
- 6.8 In the event that the Chair is unable to complete his or her term for any reason, the Deputy Chair shall temporarily hold the position until the next general meeting. Such service shall not be counted against the term of that person in the role of Chair.
- 6.9 In the event that the Deputy Chair is unable to complete his or her term for any reason, the Chair shall decide whether the position may remain vacant (if the remaining part of the term is less than 180 days), or whether to call for nominations, and hold an election using the process for deciding matters under urgency. Service of a person elected under urgency shall not be counted against the term of that person in the role of Deputy Chair.
- 6.10 At least 120 days in advance of a general meeting, the secretariat will send all Full Member organisations the invitation to make nominations for Chair and Deputy Chair positions.
- 6.11 Nominations must be moved and seconded by two different Full Member organisations, and the nomination form signed by the nominee, nominator and seconder must be received by the secretariat prior to the general meeting. The secretariat will distribute the nominations to the Full Member organisations at the general meeting.
- 6.12 Voting will be held by secret ballot during a general meeting, and will be supervised by two independent scrutineers appointed by the general meeting.
- 6.13 In the event that there are more than two candidates and no candidate achieves more than 50% of the votes cast in the ballot, the lowest polling candidate will be eliminated and a further poll held. This process will be repeated as many times as is necessary. In the event of a tie in respect of eliminating a candidate the candidate to be eliminated will be established by the drawing of lots by the scrutineers. In the event of a tie on the last poll the Chair will exercise a casting vote.
- 6.14 If required, elections may be conducted urgently as follows:
- (1) The ballot papers must be distributed to all Full Members in writing
 - (2) Each Full Member has 60 days to record its vote. Votes are to be provided directly to the secretariat.
 - (3) The secretariat will issue reminders after 30 and 45 days to those Full Members who have not responded

- (4) For the avoidance of doubt, the Executive Committee may require any Full Member to provide a faxed signed confirmation of its vote to validate that vote.
- (5) The secretariat shall be responsible for counting the votes and arranging scrutineering by at least 2 independent persons.
- (6) The Chair must announce the result without undue delay, and the outcome will apply from the date of announcement
- (7) The matter is regarded as ratified by approval of the accuracy of documentation of the decision making process (as if that documentation was minutes of a meeting), by Full Members at the next general meeting of the Engineers Mobility Forum

7. SECRETARIAT

- 7.1 The operation of the EMF and the International Register Coordinating Committee will be facilitated by a Secretariat.
- 7.2 The Secretariat will maintain a record of the deliberations and decisions at each General or Special Meeting of both the EMF and the International Register Coordinating Committee, will facilitate and record exchanges of information between the participants, and will advise participants and others as to the policies and procedures adopted by the EMF and its International Register Coordinating Committee.

8. RULES AND/OR PROCEDURES FOR THE EMF

- 8.1 Appropriate Rules and/or Procedures may be established by the Full Members from time to time to ensure that the EMF can operate in a satisfactory and expeditious manner. Adoption of, or amendment to, such Rules and/or Procedures will proceed only through a positive vote by at least two-thirds of the Full Members at a General Meeting of the EMF.

9. CHANGES TO THE CONSTITUTION

- 9.1 Any Full Member may propose amendments to this Constitution. The adoption of such amendments will proceed only upon the basis of a positive vote by at least two-thirds of the Full Members at the next succeeding General Meeting of the EMF, provided that the proposal in question has been received by the Executive Committee at least three calendar months prior to the meeting in question, and disseminated to all Full Member organizations.

10. ANNUAL FEES

- 10.1 Full and Provisional Members are required to pay an annual fee as determined by the MPA to which the EMF is a participating agreement.
- 10.2 In the event of non-payment of the annual fee, in terms of the MPA, the Full or Provisional Member will lose their membership of the EMF.

10.3 Reinstatement will require the former Full or Provisional Member to meet requirements laid down by the Executive Committee in conjunction with the Governing Group of the MPA and may include:

- (1) Payment of outstanding fees,
- (2) Payment of an application fee, and
- (3) Completion of the full process as for a new applicant for provisional membership.

11. TERMINATION OF THE EMF

11.1 The EMF will remain operative for so long as it is acceptable and desirable to the Full Members. Any Full Member or Provisional Member wishing to withdraw from the EMF must give at least twelve months' notice to the Executive Committee and Secretariat.

INTERNATIONAL REGISTER COORDINATING COMMITTEE

12. INTERNATIONAL REGISTER OF PROFESSIONAL ENGINEERS

- 12.1 The Full Members agree to create and maintain a decentralised International Register of Professional Engineers and to grant entry to that Register only to those practitioners who can demonstrate that they have:
- (1) reached an overall level of academic achievement at the point of entry to the register in question which is substantially equivalent to that of a graduate holding an engineering degree accredited by an organisation holding full membership of, and acting in accordance with the terms of, the Washington Accord; and
 - (2) been assessed within their own economy as eligible for independent practice; and
 - (3) gained a minimum of seven years practical experience since graduation; and
 - (4) spent at least two years in responsible charge of significant engineering work; and
 - (5) maintained their continuing professional development at a satisfactory level.
- 12.2 As *competency-based assessment* grows in effectiveness as an alternative approach to time-specification as described above, Assessment Statements from members that include an alternative route of this kind may be considered for approval by the International Register Coordinating Committee.
- 12.3 Applicants must agree to be bound by the codes of professional conduct established and enforced by each economy within which they are practicing. Such codes normally require that practitioners place the health, safety and welfare of the community above their responsibilities to clients and colleagues, practice only within their fields of competence, and advise their clients if and when additional professional assistance becomes necessary to implement a programme or project.
- 12.4 Applicants must further agree to be held individually accountable for their actions, both through requirements imposed by the licensing or registering authorities in the economies in which they practice and through legal processes. By applying for registration, applicants authorise the Full Member organisations to exchange such personal and other data as may be necessary to ensure that the application of a sanction or penalty in any economy in which an engineer is registered or licensed to practice will be taken into account in deciding upon their continued designation and will be appropriately recorded in the Register.

13. INTERNATIONAL REGISTER COORDINATING COMMITTEE

- 13.1 To ensure consistency in application of the agreed criteria, ultimate authority for entering persons on the International Register will be the responsibility of a committee of the Engineers Mobility Forum called the International Register Coordinating Committee.
- 13.2 The primary objectives of the International Register Coordinating Committee, herein after referred to as the Coordinating Committee, will be to facilitate the creation and

operation of an authoritative decentralised International Register of Professional Engineers, and to promote acceptance by the bodies responsible for licensing or registration in each economy where Full Members have standing that the technical and professional competence of practitioners whose names appear on the International Register is in accordance with the provisions of section 12 above.

13.3 To that end, the Coordinating Committee will:

- (1) ensure that the registration procedures and criteria adopted by each Full Member organisation as set out in their approved Assessment Statement are subject to a review and report at intervals of not more than six years;
- (2) establish a schedule for the implementation of such reviews and reports, and select review teams from persons nominated by the Full Member organisations, taking all reasonable steps to ensure that none of the individuals selected through this process has had any substantial prior involvement in or commitment to the registration system being reviewed;
- (3) support work being undertaken by Full Members and Provisional Members to develop objective mechanisms that would allow all Full Members to determine with confidence that any proposed alternative criteria meet the benchmarks specified in this Constitution;
- (4) continue mutual monitoring and information exchange by whatever means are considered most appropriate, including regular communication and sharing of information concerning assessment procedures, criteria, systems, manuals, and publications; and
- (5) facilitate the exchange of information on proven cases of unethical or incompetent practice by registered engineers, and the universal imposition of any sanctions imposed on such persons by the Full Member organisation responsible for the section of the Register upon which their names appear.

13.4 Each Full Member organisation will undertake to:

- (1) ensure that all practitioners entered by them on the International Register comply fully with the requirements specified in this Constitution, and that they have demonstrated that compliance through their Assessment Statements submitted to and approved by the Coordinating Committee; and
- (2) give all reasonable assistance and advice to bodies which are responsible for registering or licensing professional engineers in any economy in which the Full Member organization has standing and which seek to reach agreement upon mutual recognition or exemption with the corresponding authorities in other economies; and
- (4) monitor, and report regularly to the Coordinating Committee on, the extent to which persons entered upon the International Register have been successful in gaining rights to practice in economies within which the Full Member organisation has standing, and on any issues or concerns which may arise in relation to such practice.

14. MEMBERSHIP OF THE COORDINATING COMMITTEE

14.1 The Coordinating Committee shall comprise:

- the Chair of the EMF,
- the Deputy Chair of the EMF,
- one voting representative from each authorized Monitoring Committee,
- one voting representative from each Monitoring Committee holding interim authorization, and
- one non-voting representative from each Provisional Member.

14.2 Only Full Members of the EMF may nominate a representative to serve on the Coordinating Committee.

14.3 The Coordinating Committee will invite each Provisional Member to nominate a non-voting representative to serve on the Coordinating Committee. These representatives will not be entitled to vote on any issue, or participate in the debate on the initial or continued authorization of a Full Member organisation to establish and maintain a section of the International Register of Professional Engineers.

14.4 Following any resolution for suspension or termination of authorization, the representative of the Monitoring Committee concerned will remain a member of the Coordinating Committee but will revert to being a non-voting representative and will revert to a Provisional Member of the EMF, which shall normally be for a period of not more than two years.

15. TRANSFER FROM PROVISIONAL MEMBER TO FULL MEMBER

15.1 Following admission as a Provisional Member of the EMF, the organization concerned, as soon as reasonably practicable, shall submit an Assessment Statement to the Executive Committee, summarising the procedures and criteria which are proposed to be applied within their economy. The procedures and criteria shall be compatible with the fundamental principles of this Constitution, and shall have regard to the Guidelines appearing in the Schedule 2 to this Constitution.

15.2 Where a Provisional Member is not the authority granting rights of practice in its economy, an agreement between the Provisional Member and the authority concerned should be provided which clarifies conditions under which persons on the International Register of Professional Engineers from other economies will be accommodated.

15.3 The Assessment Statement will be reviewed by the Coordinating Committee in accordance with the approved Rules and may, in order to ensure mutual consistency and mutual confidence, be either:

- (1) approved as submitted; or
- (2) with the consent of the proponent, approved with amendments; or
- (3) referred back for further consideration, with suggestions for improvement.

15.4 Where an Assessment Statement has been approved by at least two-thirds of the voting members at a General Meeting of the Coordinating Committee, the Provisional Member organization concerned will be given an interim authorization to develop and

maintain a section of the International Register within their economy in accordance with that Assessment Statement and will transfer to Full Membership of the EMF.

- 15.5 The continued authorization of each such Full Member organization will thereafter be subject to periodic review by the Coordinating Committee in accordance with the approved Rules, with an initial review being undertaken as soon as reasonably practicable following approval by the Coordinating Committee.

16. MONITORING COMMITTEES AND OPERATION OF THE REGISTER

- 16.1 Each Full Member organization, which has an approved Assessment Statement, will appoint a Monitoring Committee to undertake to develop and maintain a section of the International Register open to practitioners whose qualifications and technical and professional expertise have been assessed within economies within which that Full Member organization has standing.
- 16.2 Each Monitoring Committee will be responsible for certifying the qualifications and experience of individual professional engineers seeking entry to the International Register, whether or not the assessment of such candidates is delegated to an associated body.
- 16.3 Each Monitoring Committee must provide timely and accurate information on the status of any person claiming to be listed on the section of the International Register for which they are responsible to any person or organization having a legitimate need for access to such information, to exchange relevant data with the other authorised Monitoring Committees, and, in relation to economies within which they have standing, provide a single point of contact on matters concerning practitioners listed on the International Register.
- 16.4 Full Member organisations must make every reasonable effort to comply with the review schedule to be established by the Executive Committee. Any Full Member organisation which effects a substantial change to its registration criteria, policies or procedures must report that change to the Executive Committee as soon as reasonably practicable, giving other Full Member organisations the opportunity to require that the scheduled review and report be brought forward.

17. GRANTING RIGHTS OF PRACTICE AND THE USE OF MULTILATERAL OR BILATERAL AGREEMENTS

- 17.1 Where a Full Member organisation has streamlined procedures in place in its economy to grant rights of practice to persons who are on the International Register for Professional Engineers from another Full Member economy, and that other Full Member economy does not reciprocate with similar streamlined procedures, the Full Member organisation concerned may, if it so chooses, not grant rights of practice to applicants from that other Full Member economy.
- 17.2 Where a Full Member organisation is not the authority granting rights of practice in its economy, and as a result is not able to establish streamlined procedures for granting of rights of practice to persons on the International Register of Professional Engineers from other Full Member economies, the Full Member organisation should endeavour to enter multilateral agreements or conclude bilateral agreements, providing for such streamlined procedures to be adopted on a reciprocal basis with other Full Member organisations. The foundation for such multilateral or bilateral agreements should be

consistent with the standards and practices adopted by the EMF and its International Register. A Guideline for such agreements is provided in Schedule 4 to this Constitution.

- 17.3 Any bilateral agreements concluded and an updated statement of the credit/benefit available to registrants from other jurisdictions should be reported to the Executive Committee for noting at the next General Meeting.

18. GENERAL MEETINGS OF THE COORDINATING COMMITTEE

- 18.1 General Meetings of the Coordinating Committee shall be held at least once every two years in conjunction with the General Meeting of the EMF.

19. CHAIR AND DEPUTY CHAIR

- 19.1 The Chair and Deputy Chair for the Coordinating Committee shall be as defined in clause 6.

20. RULES AND/OR PROCEDURES OF THE COORDINATING COMMITTEE

- 20.1 Appropriate Rules will be established by the Coordinating Committee from time to time to ensure the satisfactory and expeditious operation of the International Register. Adoption of, or amendment to, such Rules will proceed only through a positive vote at a general meeting of the Coordinating Committee by at least two-thirds of the Monitoring Committees which are entitled to vote

21. TERMINATION OF THE COORDINATING COMMITTEE

- 21.1 The Coordinating Committee will continue to function as long as at least half of the Full Members of the EMF wish to operate sections of the International Register. Any Full Member organisation wishing to cease operation of a section of the Register must give at least twelve months' notice to the Executive Committee and Secretariat. No such cessation of operation will, of itself, affect registration or licensing granted prior to that cessation by responsible authorities to practitioners whose names appear on the terminated section of the Register.

SCHEDULE 1

MEMBERSHIP OF THE EMF

Full Members

Engineers Australia (formally IEAust) (October 1997)
Engineers Canada (formally CCPE) (October 1997)
Engineers Ireland (formally IEI) (October 1997)
The Chinese Institute of Engineers (June 2009)
The Engineering Council of South Africa (October 1997)
The Engineering Council, United Kingdom (October 1997)
The Hong Kong Institution of Engineers (October 1997)
The Institution of Engineers, Singapore (June 2007)
The Institution of Engineers, Sri Lanka (June 2007)
The Institution of Engineers (India) (June 2009)
The Institution of Professional Engineers, New Zealand (October 1997)
The United States Council for International Engineering Practice (October 1997)
The Institution of Professional Engineers, Japan (November 1999)
The Institution of Engineers, Malaysia (November 1999)
The Korean Professional Engineers Association (June 2000)

Provisional Members

The Bangladesh Professional Engineers Registration Board (June 2003)

Observers

The Federation of European National Engineering Associations (October 1997)
The APEC Engineer Coordinating Committee (June 2000)

SCHEDULE 2

GUIDELINES ON CRITERIA AND PROCEDURES

The purpose of these guidelines is to assist organizations applying for Provisional Membership of the Engineers Mobility Forum and to assist Provisional Members to develop an Assessment Statement for submission to the International Register Coordinating Committee. That statement should explain how the eligibility of practitioners to appear on the International Register is intended to be determined. Note that the fundamental criteria set out in the Constitution are to be considered as a package, some of them being relatively objective in nature, while others require the exercise of significant professional judgment, particularly in relation to exceptional candidates. The following guidelines represent the consensus view of the Full Members on appropriate benchmarks for each criterion.

- (1) ***reached an overall level of academic achievement at the point of entry to the register in question which is substantially equivalent to that of a graduate holding an engineering degree accredited by an organisation holding full membership of, and acting in accordance with the terms of, the Washington Accord***

For Full Membership of the Engineers Mobility Forum, if the organization accrediting engineering degrees for professional engineers in an economy holds signatory status of the Washington Accord, this requirement may be deemed to have been met in full. Provisional Members of the Engineers Mobility Forum holding such membership at the General Meeting in 2007, may be deemed to have met this requirement, provided at the time of application for Full Membership sufficient progress towards achieving signatory status of the Washington Accord can be demonstrated.

For Provisional Membership of the Engineers Mobility Forum, if the organization accrediting engineering degrees for professional engineers in an economy does not hold signatory status of the Washington Accord, this requirement will be deemed to have been met if the practitioners have engineering degrees, which are covered by the following:

- (a) an appropriate engineering degree programme –
 - (i) 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
 - (ii) listed in the Index compiled by the Federation Européenne d'Associations Nationales d'Ingénieurs (FEANI); or
- (b) an appropriate engineering degree programme validated by –
 - (i) the *Engineer-in-Training* examination set by the Institution of Professional Engineers Japan (formerly: 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
- (c) 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 Full Members.

(2) *gained a minimum of seven years practical experience since graduation*

The exact definition of practical experience will be at the discretion of the Full Member organisation concerned, but the work in question should be clearly relevant to the fields of engineering in which the applicant claims expertise. During this initial period, the candidate should participate in a range of roles and activities appropriate to these fields of engineering. However, their roles while they are in responsible charge of significant engineering work may be more focused.

(3) *spent at least two years in responsible charge of significant engineering work*

The definition of significant engineering work will vary between disciplines. In general, the work should have required the exercise of independent engineering judgment, the projects or programs concerned should have been substantial in duration, cost, or complexity, and the applicant should have been personally accountable for their success or failure. An applicant may be taken to have been in responsible charge of significant engineering work when they have:

- (a) planned, designed, coordinated and executed a small project; or
- (b) undertaken part of a larger project based on an understanding of the whole project; or
- (c) undertaken novel, complex and/or multi-disciplinary work.

Note in particular that the specified period of two years may, and often will, have been completed within the course of the seven years practical experience since graduation.

(4) *been assessed within their own economy as eligible for independent practice*

Such an assessment may be conducted by the Full Member organisation, by a professional association recognised by the Full Member organisation, or by a competent authority responsible for registration or licensing of professional engineers within the relevant economy.

(5) *maintained their continuing professional development at a satisfactory level*

The nature and extent of the required participation in continuing professional development, and the manner in which compliance is audited, will remain at the discretion of the Full Member organisation concerned, but should reflect emerging norms for such participation by professional engineers and should be appropriate to the discipline or disciplines in which the practitioner claims expertise.

(6) *competency-based assessment*

Candidates for the International Register from this route would, in addition to the educational base and maintaining CPD, have been assessed within their own economy as eligible for independent practice through a competency based assessment acceptable to the Full Members that confirms that they have developed practice skills and professional maturity not less than those implied by seven years practical experience since graduation and two years in responsible charge of significant engineering work.

A competency-based assessment is one through which potential registrants present evidence of their professional competence against criteria set by the Full Member organisation.

The range and level of the competencies required, the form of the evidence to be presented and the criteria for assessment will vary for each economy but would normally be expected to include competence to -

- (1) apply engineering knowledge to the analysis and solution of engineering problems; and
- (2) provide technical and managerial leadership; and

(3) use effective communication and interpersonal skills.

SCHEDULE 3

INTERNATIONAL REGISTER COORDINATING COMMITTEE

RULES

1. GENERAL

These Rules have been developed and will be applied in accordance with the provisions of the Constitution of the Engineers Mobility Forum, herein after referred to as the EMF, and are intended to be read in conjunction with those provisions. Should the requirements of the Rules and those of the Constitution be found to be inconsistent, the requirements of the Constitution will prevail.

2. AUTHORIZATION TO OPERATE A SECTION OF THE INTERNATIONAL REGISTER

- 2.1 Applications for authorization to operate a section of the International Register within an economy must conform to the principles set out in the Constitution of the EMF and to such guidelines as may be approved from time to time by the International Register Coordinating Committee, herein after referred to as the Coordinating Committee.
- 2.2 In applying for authorization to operate a section of the International Register, a Monitoring Committee will be required to prepare and submit to the Coordinating Committee a statement of the proposed assessment criteria and procedures.
- 2.3 Authorisation, which shall be interim until the initial review, will require support from two-thirds of the voting members of the Coordinating Committee.

3. REVIEW PROCEDURES

- 3.1 The assessment system applied by each authorised Monitoring Committee in controlling entry to a section of the International Register in the economy for which that Monitoring Committee is responsible will be subject to monitoring by representatives of other authorised Monitoring Committees at intervals of not more than six years. The Executive Committee will establish a schedule for the implementation of the associated reviews and reports, and authorised Monitoring Committees will make every reasonable effort to comply with that schedule.
- 3.2 Any authorised Monitoring Committee which effects a substantial change to its assessment processes is obliged to report such a change to the Executive Committee and thus to provide the other authorised Monitoring Committees with an opportunity to request that the scheduled review be brought forward.
- 3.3 Upon receipt of a written request, each authorised Monitoring Committee will nominate two representatives and two alternates to take part in reviewing the assessment criteria and procedures of any other Monitoring Committee (See

Schedule 10). This clause shall not require any authorised Monitoring Committee to provide more than one such representative in any calendar year.

- 3.4 Three representatives will be selected by the Executive Committee from the list of nominees to form the review team, which shall include at least one participant with experience in engineering education, and one from an industrial or professional background. The Executive Committee shall take all reasonable steps to ensure that none of the individuals selected through this process has had any substantial prior involvement in, or commitment to, the assessment system being reviewed.
- 3.5 The Monitoring Committee subject to review will be advised by the Secretariat of the proposed composition of the review team, and invited to show cause why any member of the team is not suitable. In the event that such an objection is lodged, the Secretariat shall take such steps as appear necessary and appropriate to resolve the situation and shall, if unable to achieve consensus, consult the official representatives of all authorised Monitoring Committees before confirming the membership of the review team.
- 3.6 The Monitoring Committee subject to review will be given at least six months notice of the review, and will be invited to propose suitable arrangements, timetable and administrative support mechanism, for consideration by the review team. The monitoring exercise will cover all aspects of the assessment process, including, where relevant, accreditation systems, examinations, graduate training schemes and professional interviews, and will include a visit, unless upon consideration of the documentation submitted, the review team decides a visit is not necessary.
- 3.7 The costs of the review visit shall be borne by the Monitoring Committee under review. Such costs shall be limited to the payment of travel, accommodation and incidental expenses. The costs shall be reimbursed by the Monitoring Committee after the completion of the review visit. Travel shall be economy class except where flights exceed 8 hours duration or an overnight flight is required. Accommodation shall be fully serviced 3 star or 4 star.
- 3.8 Discussions relating to a review undertaken in accordance with these Rules will be held in confidence. At the conclusion of each review, the review team will forward its report and recommendations to the Executive Committee as soon as reasonably practicable. A copy of the report will be furnished to each authorised Monitoring Committee through the Secretariat.
- 3.9 The recommendations open to the review team will be as follows:
 - (a) that the Coordinating Committee remove the interim authorization status of the Monitoring Committee if such status pertains and extend the authorization of the Monitoring Committee to operate a section of the International Register within their economy for a period of six years; or
 - (b) that the Coordinating Committee extend the present authorization of the Monitoring Committee to operate a section of the International Register within their economy for a period of not more than three years, subject to that Monitoring Committee providing, within six months, a report that satisfies the Coordinating Committee that all specific issues of concern identified by the review team have been or will be addressed; or
 - (c) that the Coordinating Committee suspend the authorization of the Monitoring Committee to operate a section of the International Register within their

economy, and that urgent and specific assistance be offered by the Coordinating Committee to help the Monitoring Committee to address the deficiencies identified by the review team.

- 3.10 Any resolution for suspension or termination of authorization will require support from two-thirds of the authorised Monitoring Committees. No such suspension or termination shall, of itself, affect the recognition status of any practitioner who has already gained recognition in another economy.

4. APPEALS

- 4.1 Where an adverse recommendation has been made, and accepted by the Coordinating Committee, the Monitoring Committee in question may request that a separate review be conducted within six months by an appeal panel which is established in the same manner as, but has no membership in common with, the original review team.
- 4.2 The appeal panel will determine the procedures and criteria under which it operates. The full costs of any such appeal will be borne by the Monitoring Committee concerned and the right of appeal may be exercised only once. The outcomes of any appeal will be binding on all parties.

5. GENERAL AND SPECIAL MEETINGS

- 5.1 The Secretariat shall give the voting and non-voting members at least six months notice of a General Meeting of the Coordinating Committee.
- 5.2 Items for discussion at a General Meeting are to be submitted to the Executive Committee at least three months prior to the meeting, and the agenda and business papers are to be distributed to the members at least two months prior to the meeting. Amendments to the agenda and late submission of supporting documentation may be adopted by a simple majority of voting members present at the meeting. Consideration and/or finalisation of matters placed on the agenda by the meeting as contemplated above can be suspended and held over for the agenda of the next meeting if a procedural motion to this effect is adopted by a simple majority of voting members present at the meeting.
- 5.3 A Special Meeting shall be convened within three months of receipt by the Secretariat of a request submitted in writing over the signatures of three or more voting members of the Coordinating Committee. Any such request must indicate clearly the matters which are to be resolved at the Special Meeting, and the agenda of the meeting shall be restricted to consideration and resolution of those matters.
- 5.4 Special Meetings may take place in E-mail, tele-conferencing or video-conferencing format unless the Secretariat receives a specific request from a majority of voting members, at least two months in advance, that a face-to-face meeting be convened.
- 5.5 The time and place of any Special Meeting held in the face-to-face mode shall, so far as practicable, be such as to minimise the overall travel costs for participants. Where convenient, the meeting should follow or precede a major international conference or similar event.

- 5.6 Each Monitoring Committee will endeavour to arrange for at least one representative to attend each Special Meeting, failing which will use the proxy procedures set out in section 6.2.
- 5.7 No Monitoring Committee will be required to comply with a decision of a General or Special Meeting when compliance would require them to act in a manner which is contrary to their constitution, or, where relevant, beyond their statutory authority.

6. VOTING

- 6.1 Voting members at General or Special Meetings shall be representatives of authorised Monitoring Committees and of Monitoring Committees holding interim authorization. Each voting member shall have one vote.
- 6.2 Monitoring Committees which are entitled to vote on any matter at a General Meeting of the Coordinating Committee may lodge that vote either through their designated representative attending that meeting, or may authorise a proxy to vote on their behalf. Such authorization may specify how the vote is to be exercised, or may give the proxy discretion to vote having regard to the debate at the meeting.
- 6.3 Unless otherwise specified in the Constitution or in these Rules, a simple majority will suffice to carry a motion. In the event of there being no majority of votes for or against a motion, the motion is not carried and the status quo prevails.

7. CHANGES TO RULES

- 7.1 Any changes to the Rules shall be carried out as described in the Constitution.
- 7.2 Any member of the Coordinating Committee may propose amendments to these Rules at any time for consideration at the next succeeding General Meeting, provided that the proposal in question has been received by the Executive Committee at least three calendar months prior to the meeting in question, and disseminated to all Monitoring Committees at least two months prior to that meeting.

SCHEDULE 4

ENGINEERS MOBILITY FORUM

MULTILATERAL OR BILATERAL AGREEMENTS AS ADDENDUMS TO THE EMF AGREEMENT

1. The EMF Constitution sets up a mutual recognition framework primarily through the creation of the International Register of Professional Engineers, which does not bind registration and/or licensing bodies in an economy, where they are not the signatory to the EMF agreement for that economy.
2. In terms of the Constitution, however, each Full Member organisation has undertaken to use its best endeavours to ensure that the further assessment of International Professional Engineers is minimised.
3. Where an economy has a highly regulated system for licensing engineers for obtaining rights of practice, and the monitoring committee of the Full Member organisation does not include persons from regulatory bodies who grant the rights of practice, cross boarder mobility will need to be facilitated by specific bilateral agreements that commit the regulatory authorities to streamlined processes.
4. The acceptance of bilateral agreements within the EMF framework provides the Full Member organisations concerned with the opportunity to engage meaningfully with their regulatory authorities in order to simplify arrangements for foreign International Professional Engineers wishing to provide services in their jurisdiction.
5. Bilateral agreements should be kept as simple as possible, based on the agreement of substantial equivalence of the EMF Constitution, stating only the criteria and processes required for their mutual exemption framework. A bilateral agreement should provide some certainty about requirements for an engineer from one economy who wishes to practice in the other.
6. A bilateral agreement should be a brief public document signed by representatives of the Full Member organisations and the regulatory authorities in both economies that are party to it.
7. Once a bilateral agreement has been concluded, it should be reported to the Coordinating Committee at its next meeting by lodging a copy of it with the Executive Committee prior to the meeting. The Secretariat will be required to keep a copy of such agreement for record purposes.
8. An example of the potential form of a bilateral agreement follows, which could form the basis of preparing an agreement appropriate to the specific economies involved.

**EMF INTERNATIONAL REGISTER OF PROFESSIONAL ENGINEERS
ADDITIONAL AGREEMENT
for the
Mutual Recognition of Licensed/Registered Engineers
Between
Jurisdictions of [first country] and [second country]
To Facilitate Mobility of International Professional Engineers**

1. Participants

1.1. The [first signatory organisation]

1.2. The [second signatory organisation]

Both [organisations] are Full Members of the Engineers Mobility Forum (hereafter EMF)

1.3. The [authority/authorities responsible for registration/licensure or Participating Authority/Authorities]

2. Definitions

“Accredited Engineering Programme” means a university engineering education programme accredited by [first signatory’s accreditation body] or by [second signatory’s accreditation body]. Both accreditation bodies maintain [international accreditation agreement, e.g. Washington Accord] accreditation standards.

“[Acronym or business name of first signatory]” means the [first signatory organisation].

“[Acronym or business name of second signatory]” means the [second signatory organisation].

“Home Economy” means the jurisdiction holding the Section of the International Register of Professional Engineers on which an engineer is registered.

“Host Economy” means the jurisdiction to which an engineer applies for reciprocal recognition under the terms of this Agreement.

“Participating Authority” means an authority responsible for registration/licensure in one of the signatory country jurisdictions, where this is not the EMF Full Member signatory to this Agreement

“Licensing” and “Registration” mean the process by which a person obtains the right to independent practice within the Home Economy.

“Licensed/Registered Engineer” means an engineer who has been granted licensure/registration status and has been admitted according to detailed assessments carried out by the responsible authority in the Home Economy.

“Substantially Equivalent Academic Qualification” means an academic qualification which is not an Accredited Engineering Programme, but which has been assessed and recognised as substantially equivalent to such by the relevant responsible authority in the Home Economy.

“Washington Accord” means the agreement between certain engineering accreditation bodies that:

- Recognises the substantial equivalence of accreditation systems of signatory organisations and the engineering education programs accredited by them; and
- Establishes that graduates of programs accredited by the accreditation organisations of each member economy are prepared to practise engineering at the entry level.

3. Basis and Purpose of this Agreement

- 3.1. This Agreement supersedes all other such mutual recognition agreements between [first signatory organisation], [second signatory organisation] and the [Participating Authority/Authorities].
- 3.2. This Agreement is made within the wider framework of the EMF to which both the first two signatories are Full Members.
- 3.3. This Agreement is intended to permit the mutual recognition of [Licensed/Registered] Engineers from a Home Economy in the Host Economy. This Agreement sets out the standards, criteria, procedures and measures which:
 - (a) are based on the general provisions within the EMF Constitution
 - (b) are based on objective and transparent criteria, such as competence and the ability to provide a service;
 - (c) are not more burdensome than necessary to ensure the quality of a service; and
 - (d) do not constitute a disguised restriction on the cross-border provision of a service.
- 3.4. Provisions under this Agreement apply to Engineers on the Section of the International Register of Professional Engineers in the Home Economy.
- 3.5. Nothing in this Agreement shall apply to individual practice or malpractice disputes.

4. Scope of this Agreement

- 4.1. This Agreement covers Engineers registered on a Section of the International Register of Professional Engineers in a signatory jurisdiction.
- 4.2. It is intended that there be no discrimination based on place of origin or place of education.
- 4.3. This Agreement is intended for permanent or temporary [Licensure/Registration], depending on the needs of the individual applicant and any legislative limitations in each Jurisdiction.

5. Mutual Recognition Provisions and Limitations

- 5.1. [Insert first signatory organisation’s provisions and limitations under this Agreement]
- 5.2. [Insert second signatory organisation’s provisions and limitations under this Agreement]

5.3. [Insert Participating Authority's/Authorities' provisions and limitations under this Agreement]

6. Additional Participating Authorities

6.1 Additional Participating Authorities may be added to this agreement if agreed to by the signatories to this Agreement by means of an addendum to the Agreement, the signing of which binds that additional Participating Authority to the terms of this Agreement.

7. Discipline and Enforcement

7.1. Both Full Member signatories and all Participating Authorities will extend cooperation to the extent possible on enforcement and disciplinary issues.

7.2. An application for Licensure/Registration made under this Agreement must include disclosure of any sanctions related to the practice of engineering in other Jurisdictions. Information regarding sanctions may be considered in the Licensure/Registration process.

7.3. An application for Licensure/Registration made under this Agreement must include the applicant's written permission to distribute and exchange information regarding sanctions between all involved Jurisdictions. Failure to fully disclose or provide any of the required information may be the basis for denial of the application, or for sanctions, including revocation of the Licence/Registration.

7.4. Each Jurisdiction will take appropriate disciplinary action if an engineer violates the standards of that Jurisdiction. Each Jurisdiction shall promptly report sanctions to all other Jurisdictions in which it knows the engineer is a Licensed/Registered Engineer.

7.5. A Jurisdiction shall take appropriate action, subject to its own rules of procedure and the principle of due process, related to a sanction that is reported to them by another Jurisdiction. Each Home Economy shall provide for review of cross-border sanctions.

8. Immigration and Visa Issues

8.1. Recognition and any licensure/registration granted under this Agreement in a Host Economy does not preclude the need to conform to applicable immigration and visa requirements of the Host Economy.

9. Information Exchange

9.1. The signatories will notify each other and provide copies of any major changes in policy, criteria, procedures and programmes that might affect this Agreement.

9.2. The signatories will provide an annual accounting to each other of all applicants who have applied pursuant to the terms of this Agreement

10. Dispute Resolution

10.1 The signatories to this Agreement shall at all times endeavour to agree on the interpretation and application of this Agreement and shall make every attempt through co-operation and consultation to arrive at a mutually satisfactory resolution of any matter that might affect its operation.

10.2 Any signatory to this Agreement may request in writing consultation with another signatory regarding any actual or proposed measure or any other matter that it considers might affect the operation or interpretation of this Agreement.

11. Term of Agreement

11.1. This Agreement will come into effect on execution.

11.2. The signatories shall, at least every five (5) years, review and update the status of implementation and the effectiveness of the Agreement, and to recommend changes.

11.3. A signatory or any Participating Authority may withdraw from the provisions of this Agreement six (6) months after it provides written notice of withdrawal to the other signatories and Participating Authorities. If a Participating Authority withdraws, the Agreement shall remain in force for the remaining Participating Authorities.

11.4. If at any time all Participating Authorities have withdrawn from the agreement, this agreement will automatically terminate.

11.5. This Agreement will automatically terminate if both signatories are not members in good standing of the EMF.

11.6. Any registrant/licensee approved or in the progress at the time of the Agreement will be treated as if this Agreement is still in existence.

EXECUTED [insert date]

[First signatory organisation name]

[Second signatory organisation name]

(name)
(position)

(name)
(position)

(name)
(position)

(name)
(position)

[Participating Authority]

[Participating Authority]

(name)
(position)

(name)
(position)

SCHEDULE 5

IntPE PROTOCOL

Introduction

At the EMF meetings in Rotorua, New Zealand, June 2003, the proposal for a post-nominal title to be granted to engineers that are registered on the International Register of Professional Engineers was discussed. All delegations agreed that the form the title would take should be “IntPE”, the abbreviation for “International Professional Engineer”, with the intention to introduce the title as soon as possible. It was also agreed that the use of the post-nominal title would be optional for each monitoring committee.

The IEM workshops held in London, England, June 2004, further considered the matter and it was agreed to recommend modification of the title to “IntPE (Jurisdiction)”.

The following formats have been stated for those wishing to use the post-nominal title:

Australia	IntPE (Aus)
Canada	IntPE (Canada)
Chinese Taipei	IntPE (Chinese Taipei)
Hong Kong-China	IntPE (Hong Kong)
India	IntPE (India)
Ireland	IntPE (Irl)
Japan	IntPE (Jp)
Korea	IntPE (ROK)
Malaysia	IntPE (My)
New Zealand	IntPE (NZ)
Singapore	IntPE (Singapore)
South Africa	IntPE (SA)
Sri Lanka	IntPE (Sri Lanka)
United Kingdom	IntPE (UK)

The protocol for use of *IntPE*

It is proposed that the following protocol be adopted for usage of the IntPE (jurisdiction) title:

- All International Registrants shall be advised, upon confirmation of the registration, of their entitlement to use the IntPE (jurisdiction) title;
- Where there are legal impediments to the use of the title within the registering country jurisdiction, the registrant should be advised accordingly, and should also be advised that the title may be used in other jurisdictions;
- The registering authority of the receiving country, when an International Registrant seeks such registration, should advise the applicant of any legal (or other) reasons that would disallow usage of the title;
- For the above two points, the registrant/applicant should be advised that any restriction applies both to use of the title on business cards, stationery, email signatures. Such notification should reduce any potential non-permitted usage of the title in such a jurisdiction;
- The individual International Registrant accepts full responsibility for compliance with the law of any foreign country in using the post-nominal title. The EMF takes no responsibility for the irregular use of the post-nominal title by a registrant under circumstances contrary to the advice/information given to him under this protocol.

SCHEDULE 6

ENGINEERS MOBILITY FORUM

GUIDELINES FOR ADMISSION

AS

PROVISIONAL AND FULL MEMBERS

1. Introduction

- 1.1. The EMF has grown from 8 members in 1997 to 13 members in 2005, with increasing interest from other organisations involved in the international engineering community as the work of the Forum gains greater prominence.
- 1.2. With this growth and development of the EMF it is recognised that the process by which an interested organisation applies for Provisional Membership of the EMF needs greater formalisation and clarification.
- 1.3. This document, which should be read in conjunction with the 'EMF Mentoring Guidelines', provides such information and guidance.
- 1.4. Both the application process and the type of documentation that the applicant organisation needs to provide to the Executive Committee for consideration at a General Meeting of the EMF is explained here.
- 1.5. Applications for Provisional Membership are considered at General Meetings of the EMF, which are normally held biennially. The granting of Provisional Membership of the EMF precedes application for Full Membership. Once an applicant organisation has been granted Provisional Membership it can begin working towards satisfying the requirements for Full Membership, preferably with the assistance of Mentors.
- 1.6. Applications for Full Membership can be considered at the General Meeting of the International Register Coordinating Committee of the EMF following two years after the General Meeting at which Provisional Membership was granted. It should be noted that there is no prescribed time period for progression to Full Membership and a period of greater than two years may be required to satisfy Full Member requirements depending of the stage of development of the Provisional Member's accreditation and registration systems.

2. Definitions

2.1. Provisional Member

2.2. Provisional Members are organisations with or in the course of developing registers of professionally qualified engineers in their own economies who intend to apply to be Full Members of the EMF. Admission as a Provisional Member does not imply and shall not be used to imply that any part of the organisation's register meets the requirements for Full Membership.

2.3. Full Member

2.4. Full Members are organisations responsible for registers of those professionally qualified engineers who have been assessed as eligible for independent practice within their own economy, and whose qualifications are based on academic achievement substantially equivalent to that of a graduate holding an engineering degree accredited by an organisation holding membership of the Washington Accord, and who have been granted interim or full authorization to maintain a section of the International Register.

3. Application for Provisional Member Status

3.1. An organisation wishing to be a Provisional Member must be nominated by two Full Members in writing, and will be accepted only upon a positive vote by at least two-thirds of the Full Members at a General Meeting of the EMF.

3.2. A Full Member of the EMF, who nominates an organisation for Provisional Membership, must attest to the organisation's systems and the standard of its engineers. The nominating Full Member needs to be able to provide attestation based on their first hand knowledge of these systems. This may require the Full Member visiting the applicant jurisdiction to observe the processes and procedures of the system of accreditation and registration. All costs incurred as a direct result of such visits are met by the applicant organisation.

3.3. The required documentation to be prepared by the applicant organisation should be sufficient to show that the organisation meets the requirements for Provisional Membership. This documentation may take a similar form to the Assessment Statement required for Full Membership. Guidelines for Assessment Statements are set out in Schedule 2 of the EMF Constitution. The content of the documentation for application must include details of the domestic accreditation system, including the stage of development of the accreditation and registration systems at the time of application.

3.4. The applicant must provide a statement in its application which indicates its procedures for granting rights of practice in its economy to persons on the International Register of Professional Engineers from other economies.

3.5. The application including all documentation and the two letters of nomination for the application shall be submitted to the Executive Committee at least 3 months prior to the next General Meeting.

3.6. The applicant organization is required to give a presentation based on its application documentation to the General Meeting of the EMF at which its application will be considered.

4. Application Submission Requirements

- 4.1. The business language of the EMF is English. All documentation and communications must be in English.
- 4.2. The application must be submitted to the Executive Committee of the EMF in electronic format at least 3 months prior to the next General Meeting of the EMF.

5. Progression from Provisional Member to Full Member

- 5.1. The transfer of a Provisional Member to Full Member may involve mentoring by Full Members to assist in all aspects of the transfer process, including the drafting of an Assessment Statement. Provisional Members are required to provide an Assessment Statement that sets out its current procedures and criteria for domestic registration and also its proposed procedures and criteria for admitting individual applicants to its section of the International Register of Professional Engineers.
- 5.2. After admission as a Provisional Member of the EMF, the organization concerned, as soon as reasonably practicable, shall submit an Assessment Statement to the Coordinating Committee, summarising the procedures and criteria which are proposed to be applied within their economy. The procedures and criteria shall be compatible with the fundamental principles of this Constitution, and shall have regard to the Guidelines appearing in the Schedule 2 to this Constitution.
- 5.3. Where a Provisional Member is not the authority granting rights of practice in its economy, an agreement between the Provisional Member and the authority concerned should be provided which clarifies conditions under which persons on the International Register of Professional Engineers from other economies will be accommodated.
- 5.4. The Assessment Statement must ensure that the criteria required by the EMF International Register Coordinating Committee are met. These requirements are as follows, as taken from EMF Constitution.

Clause 12.1

The Full Members agree to create and maintain a decentralised International Register of Professional Engineers and to grant entry to that Register only to those practitioners who can demonstrate that they have:

- (1) reached an overall level of academic achievement at the point of entry to the register in question which is substantially equivalent to that of a graduate holding an engineering degree accredited by an organization holding full membership of, and acting in accordance with the terms of, the Washington Accord; and*
- (2) been assessed within their own economy as eligible for independent practice; and*
- (3) gained a minimum of seven years practical experience since graduation; and*
- (4) spent at least two years in responsible charge of significant engineering work; and*
- (5) maintained their continuing professional development at a satisfactory level.*

Clause 12.3

Applicants must agree to be bound by the codes of professional conduct established and enforced by each economy within which they are practicing. Such codes normally require that practitioners place the health, safety and welfare of the community above their responsibilities to clients and colleagues, practice only within their fields of competence, and advise their clients if and when additional professional assistance becomes necessary to implement a programme or project.

Clause 12.4

Applicants must further agree to be held individually accountable for their actions, both through requirements imposed by the licensing or registering authorities in the economies in which they practice and through legal processes. By applying for registration, applicants authorize the Full Member organizations to exchange such personal and other data as may be necessary to ensure that the application of a sanction or penalty in any economy in which an engineer is registered or licensed to practice will be taken into account in deciding upon their continued designation and will be appropriately recorded in the Register.

Clause 15.2

Where a Provisional Member is not the authority granting rights of practice in its economy, an agreement between the Provisional Member and the authority concerned should be provided which clarifies conditions under which persons on the International Register of Professional Engineers from other economies will be accommodated.

Clause 15.3

The Assessment Statement will be reviewed by the Coordinating Committee in accordance with the approved Rules and may, in order to ensure mutual consistency and mutual confidence, be either:

- (1) approved as submitted; or*
- (2) with the consent of the proponent, approved with amendments; or*
- (3) referred back for further consideration, with suggestions for improvement.*

Clause 15.4

Where an Assessment Statement has been approved by at least two-thirds of the voting members at a General Meeting of the Coordinating Committee, the Provisional Member organization concerned will be given an interim authorization to develop and maintain a section of the International Register within their economy in accordance with that Assessment Statement and will transfer to Full Membership of the EMF.

Clause 15.5

The continued authorization of each such Full Member organization will thereafter be subject to periodic review by the Coordinating Committee in accordance with the approved Rules, with an initial review being undertaken as soon as reasonably practicable following approval by the Coordinating Committee.

SCHEDULE 7

ENGINEERS MOBILITY FORUM

MENTORING GUIDELINES

1. Introduction

- 1.1. The EMF has grown from 8 members in 1997 to 13 members in 2005, with increasing interest from other organisations involved in the international engineering community as the work of the Forum gains greater prominence.
- 1.2. With this growth and development of the EMF it is recognised that the process by which an interested organisation applies for Provisional Membership of the EMF needs greater formalisation and clarification.
- 1.3. An organisation wishing to be a Provisional Member must be nominated by two Full Members in writing who can attest to the organisation's systems and the standard of its engineers. The nominating Full Members need to be able to provide attestation based on their first hand knowledge of these systems.
- 1.4. A Provisional Member transferring to Full Member status of the EMF is required to obtain interim authorization to develop and maintain a section of the International Register in accordance with an Assessment Statement setting out the procedures and criteria proposed by the applicant. A Provisional Member will benefit from guidance provided by Full Members to assist with the development of the processes and procedures needed to satisfy the EMF Full Member requirements.
- 1.5. It is therefore recognised that a structured system of mentoring is appropriate for Provisional Members applying for Full Membership of the EMF. It is also recognised that the system of mentoring could also be appropriate for organisations applying for Provisional Membership of the EMF.

2. Definition of Terms

- 2.1. Within the context of these guidelines the terms below have the following definitions.

2.2. Mentoring

- 2.3. Mentoring is a process by which mentors provide support and guidance to an engineering professional licensing or registration body that has jurisdictional approval to apply for Provisional or Full Member status of the EMF. The mentoring role will focus on providing advice and guidance on the policies and procedures and educational and registration standards of the mentee so that the mentee is given every opportunity, on application, to gain Provisional or Full Member status of the EMF.

2.4. Mentor

- 2.5. 'Mentor' will refer to the Full Members of the EMF that provide structured mentoring to the mentee.

2.6. Mentee

2.7. 'Mentee' will refer to the jurisdiction being mentored which is committed to gaining Provisional or Full Member status of the EMF.

3. Principles

3.1. Mentoring is not compulsory but is recommended because of the benefits it can bring to the mentee.

3.2. The decision to participate in the mentoring process is left to each jurisdiction.

3.3. Mentors may be appointed by the Executive Committee, with the agreement of the mentors, or may be appointed following direct agreement with the mentee. Where the mentor is appointed by the Executive Committee cognisance shall be taken of the geographical closeness of the mentor and mentee jurisdictions. Where the mentor is appointed through direct agreement between the mentor and the mentee, the mentor organisation shall notify the Executive Committee of the mentoring relationship.

3.4. Mentoring relationships are established for a set purpose and for a set period of time. The purpose and time period should be agreed between the mentee and the mentor at the beginning of the mentoring relationship.

3.5. Mentoring is not a requirement for Provisional or Full Membership of the EMF and participation in a mentoring relationship will not guarantee a mentee success in its application for Provisional or Full Membership of the EMF.

3.6. EMF mentors are acting on behalf of the EMF and for the benefit of the mentee. They must perform their mentoring duties in a professional and timely manner and must keep a record of the mentoring activities that have been undertaken.

3.7. The advice provided by the mentor is confidential to the mentee and the mentor.

3.8. Any information by way of reports covering the advice of the mentor etc. may only be released to 3rd parties, including the Secretariat, with the permission of the mentee.

4. Costs

4.1. Any direct costs associated with EMF mentoring shall be met by the mentee and will be agreed between the mentee and the mentor.

5. Nominators and Reviewers

5.1. The Full Members that have acted as mentors are likely, but are not required, to be nominators for an application for Provisional Membership.

5.2. The review team that will undertake the first review of the mentee following successful granting of Full Member status shall be composed of representatives of Full Member organisations that did not act as Mentors. This is to ensure that there is no conflict of interest on the part of the review team.

SCHEDULE 8

ENGINEERS MOBILITY FORUM

INTERNATIONAL REGISTER OF PROFESSIONAL ENGINEERS

REVIEW PROCESS GUIDELINES

Guidelines for the EMF IRPE Review Process

Contents

Document	Page
Review Process Guidelines	3
Review Report	6
Appendix A - Extract from EMF International Register of Professional Engineers Constitution Schedule 3	12

Review Process Guidelines

1. General

- 1.1 The review of the assessment system applied by each authorised Monitoring Committee shall be conducted under the general provisions of the International Register Review Procedures as detailed in the EMF International Register of Professional Engineers (IRPE) Constitution Schedule 3 (Appendix A to this document), and in adherence to the following guidelines.
- 1.2 The Review Programme will be prepared by the Secretariat under the guidance of the Executive Committee and approved by the Full Members at each biennial meeting for the upcoming cycle.
- 1.3 Each Full Member shall be subjected to review every six years.
- 1.4 Any Full Member organisation which effects a substantial change to its assessment processes is obliged to report such a change to the Executive Committee and thus to provide the other Full Members with an opportunity to request that the scheduled review be brought forward.
- 1.5 Discussions relating to a review undertaken in accordance with these Rules will be held in confidence. At the conclusion of each review, the review team will forward its report and recommendations to the Executive Committee as soon as reasonably practicable. A copy of the report will be furnished to each authorised Monitoring Committee through the Secretariat.
- 1.6 The Executive Committee will select Review Team members from the list of nominees provided by Full Members for acceptance by the Monitoring Committee subject to review.
- 1.7 The Monitoring Committee subject to review shall be given at least six months' notice and will be invited to propose suitable arrangements, timetable and administrative support for consideration by the review team.
- 1.8 All documentation shall be provided in English.

2. Prior to the Review Visit

- 2.1 It is recognised that the format of the review will have minor differences due to the registration procedures of each Monitoring Committee but the following information shall be provided to the Secretariat prior to the review visit for distribution to the review team.

- (a) The current approved EMF Assessment Statement;
- (b) A brief description of the domestic registration process;
- (c) Details of the registration process for the IRPE;
- (d) A representative sample of IRPE applications, submitted under the following criteria:

- 12 applications should be submitted, where possible this should include 2 borderline admitted cases. (This number can be adjusted by the Executive Committee in conjunction with the Review Team if the register under review is very small);
 - CPD portfolios shall be included for all applications;
 - All applications shall have suitable annotation to prevent personal identification
- 2.2 The Review Team may request further relevant information to enable a comprehensive review of documentation to be made prior to the Review Visit. Any such request should be made through the Secretariat and not directly to the Monitoring Committee being reviewed.
- 2.3 Where reviews have already been conducted with the Monitoring Committee under review, the Secretariat will provide a copy of the previous review report to the Review Team.

3. Review Visit

- 3.1 Following consideration of the documentation submitted by the Monitoring Committee, the Review Team, in conjunction with the Executive Committee, may decide that a visit is not necessary. The relevant sections of the Review Report shall be completed with clear indication that the Review Team agreed unanimously that a visit was not required.
- 3.2 The business language for the review visit shall be English. Where required, the Monitoring Committee under review shall provide a translator.
- 3.3 The costs of the review visit shall be borne by the Monitoring Committee under review. Such costs shall be limited to the payment of travel, accommodation and incidental expenses. The costs shall be reimbursed by the Monitoring Committee after the completion of the review visit. Travel shall be economy class except where flights exceed 8 hours duration or an overnight flight is required. Accommodation shall be fully serviced 3 star or 4 star.
- 3.4 Notwithstanding paragraph 3.1 above, it is recognised that the format of the review will have minor differences due to variations between the registration procedures of each Monitoring Committee. However, each Review Visit will seek to establish that the implementation of the approved assessment statement is being followed and specifically that the following criteria are being fulfilled:
- (a) That the standards of the accreditation system for academic programs and/or examinations are substantially equivalent to systems operated under the Washington Accord;
 - (b) That the processes by which engineers are registered domestically are robust and in accordance with the approved Assessment Statement and the description provided to the Review Team by the Monitoring Committee and that the professional standard required for registration is acceptable;
 - (c) That the processes by which International Engineers are registered are robust and in accordance with the approved Assessment Statement provided to the Monitoring Committee;

- (d) That the standard of professional judgement demonstrated through acceptance or rejection of applications is satisfactory, including the judgement regarding demonstration of sufficient and satisfactory CPD;
- (e) That the code of ethical conduct applicable to international registrants through their national code of conduct should include clauses requiring that, when undertaking engineering activities, engineers shall:
 - i) not misrepresent their educational qualifications or professional titles,
 - ii) accept appropriate responsibility for their work and that carried out under their supervision,
 - iii) ensure that they only undertake tasks for which they are competent
 - iv) respect the personal rights of people with whom they work and the legal and cultural values of the societies in which they carry out assignments,
 - v) avoid conflicts of interest, observe proper duties of confidentiality, not accept or give inducements, and consider the public interest and be prepared to contribute to public debate on matters of technical understanding in fields in which they are competent to comment,and must take reasonable steps to:
 - vi) maintain their relevant competences at the necessary level,
 - vii) provide impartial analysis and judgement to employers,
 - viii) prevent avoidable danger to health and safety, and
 - ix) minimise foreseeable and avoidable impacts on the environment.

4. The Review Report

- 4.1 The review team shall compile a review report stating clearly the findings of the review team and its recommendations, which shall be as described in the EMF IRPE Constitution Schedule 3, Review Procedures paragraph 3.9.
- 4.2 The review team shall provide the Monitoring Committee it reviewed with a copy of the Review Report to confirm factual accuracy. The draft Review Report may be submitted by the reviewers to their home organisations for the purposes of quality assurance and advice, but may not be communicated to any signatory in draft or final form except through the Secretariat.
- 4.3 After the review team has received confirmation and agreement from the Monitoring Committee it reviewed, it shall then provide the Secretariat with its report. If agreement cannot be reached regarding the accuracy of the report, the Monitoring Committee may record its disagreements with the report and such comments must be recorded on the Review Report. A copy of the report will be circulated by the Secretariat to each authorised Monitoring Committee.
- 4.4 Any actions required as a result of the review shall be carried out in accordance with the EMF IRPE Constitution Schedule 3, Review Procedures paragraph 3.10.

EMF INTERNATIONAL PROFESSIONAL ENGINEERS (IntPE)

REVIEW REPORT

Economy under review

Monitoring Committee Name & Address

Review Visit Dates: (Insert 'N/A' if visit not required)

VISIT SCHEDULE
(Insert 'N/A' if visit not required)

COMPOSITION OF REVIEW TEAM

Name

Economy

Team Leader:

Team Member:

Team Member:

MONITORING COMMITTEE REPRESENTATIVES

(Insert 'N/A' if visit not required)

EMF IntPE REVIEW REPORT

1. ASSESSMENT OF DOCUMENTATION

1.1 List Of Documents Reviewed

1.2 Comments Regarding Documentation

EMF IntPE REVIEW REPORT

2. ASSESSMENT OF PROCESSES

2.1 Processes Reviewed

2.2 Comments Regarding Processes

EMF IntPE REVIEW REPORT

3. REVIEW FINDINGS

EMF IntPE REVIEW REPORT

4. RECOMMENDATIONS

(Recommendations shall be as described in the EMF IRPE Constitution Schedule 3, Review Procedures paragraph 3.8)

EMF IntPE REVIEW REPORT

DECLARATION

I confirm that this report is factually correct and presents a true and accurate record of the documentation and processes reviewed. I also confirm that the recommendations outlined in the report are as described in paragraph 3.9 of the EMF IRPE Constitution Schedule 3, Review Procedures.

Team Leader Name:

Team Leader Signature:

STATEMENT OF AGREEMENT OF MONITORING COMMITTEE

I confirm that this report presents a true and accurate record of the documentation and processes reviewed

Monitoring Committee Representative Name:

Monitoring Committee Representative Signature:

Appendix A

Extract from EMF International Register of Professional Engineers Constitution Schedule 3

3. REVIEW PROCEDURES

- 3.1 The assessment system applied by each authorised Monitoring Committee in controlling entry to a section of the International Register in the economy for which that Monitoring Committee is responsible will be subject to monitoring by representatives of other authorised Monitoring Committees at intervals of not more than six years. The Executive Committee will establish a schedule for the implementation of the associated reviews and reports, and authorised Monitoring Committees will make every reasonable effort to comply with that schedule.
- 3.2 Any authorised Monitoring Committee which effects a substantial change to its assessment processes is obliged to report such a change to the Executive Committee and thus to provide the other authorised Monitoring Committees with an opportunity to request that the scheduled review be brought forward.
- 3.3 Upon receipt of a written request, each authorised Monitoring Committee will nominate two representatives and two alternates to take part in reviewing the assessment criteria and procedures of any other Monitoring Committee (See Schedule 10). This clause shall not require any authorised Monitoring Committee to provide more than one such representative in any calendar year.
- 3.4 Three representatives will be selected by the Executive Committee from the list of nominees to form the review team, which shall include at least one participant with experience in engineering education, and one from an industrial or professional background. The Executive Committee shall take all reasonable steps to ensure that none of the individuals selected through this process has had any substantial prior involvement in, or commitment to, the assessment system being reviewed.
- 3.5 The Monitoring Committee subject to review will be advised by the Secretariat of the proposed composition of the review team, and invited to show cause why any member of the team is not suitable. In the event that such an objection is lodged, the Secretariat shall take such steps as appear necessary and appropriate to resolve the situation and shall, if unable to achieve consensus, consult the official representatives of all authorised Monitoring Committees before confirming the membership of the review team.
- 3.6 The Monitoring Committee subject to review will be given at least six months notice of the review, and will be invited to propose suitable arrangements, timetable and administrative support mechanism, for consideration by the review team. The review will cover all aspects of the assessment process, including, where relevant, accreditation systems, examinations, graduate training schemes and professional interviews, and will include a visit, unless upon consideration of the documentation submitted, the review team decides a visit is not necessary.
- 3.7 The costs of the review visit shall be borne by the Monitoring Committee under review. Such costs shall be limited to the payment of travel, accommodation and incidental expenses. The costs shall be reimbursed by the Monitoring Committee

after the completion of the review visit. Travel shall be economy class except where flights exceed 8 hours duration or an overnight flight is required. Accommodation shall be fully serviced 3 star or 4 star.

- 3.8 Discussions relating to a review undertaken in accordance with these Rules will be held in confidence. At the conclusion of each review, the review team will forward its report and recommendations to the Executive Committee as soon as reasonably practicable. A copy of the report will be furnished to each authorised Monitoring Committee through the Secretariat.
- 3.9 The recommendations open to the review team will be as follows:
- (a) that the Coordinating Committee remove the interim authorization status of the Monitoring Committee if such status pertains and extend the authorization of the Monitoring Committee to operate a section of the International Register within their economy for a period of six years; or
 - (b) that the Coordinating Committee extend the present authorization of the Monitoring Committee to operate a section of the International Register within their economy for a period of not more than three years, subject to that Monitoring Committee providing, within six months, a report that satisfies the Coordinating Committee that all specific issues of concern identified by the review team have been or will be addressed; or
 - (c) that the Coordinating Committee suspend the authorization of the Monitoring Committee to operate a section of the International Register within their economy, and that urgent and specific assistance be offered by the Coordinating Committee to help the Monitoring Committee to address the deficiencies identified by the review team.
- 3.10 Any resolution for suspension or termination of authorization will require support from two-thirds of the authorised Monitoring Committees. No such suspension or termination shall, of itself, affect the recognition status of any practitioner who has already gained recognition in another economy.

APPEALS

- 4.1 Where an adverse recommendation has been made, and accepted by the Coordinating Committee, the Monitoring Committee in question may request that a separate review be conducted within six months by an appeal panel which is established in the same manner as, but has no membership in common with, the original review team.
- 4.2 The appeal panel will determine the procedures and criteria under which it operates. The full costs of any such appeal will be borne by the Monitoring Committee concerned and the right of appeal may be exercised only once. The outcomes of any appeal will be binding on all parties.

SCHEDULE 9

FORMAT FOR BIENNIAL REPORT TO THE EMF GENERAL MEETING

DATE AND PLACE OF MEETING

CONTACT INFORMATION

Name of Organisation:
Membership Status:
Address:
Telephone:
Fax:
Email Address:
Website:

LEADERSHIP

Chief Operating Officer:
President:
Chair International Committee:
Chair of Monitoring Committee:

FOR FULL MEMBERS ONLY

BODIES REPRESENTED ON MONITORING COMMITTEE

ASSESSMENT STATEMENT CHANGES (Note: substantial changes to registration criteria, policies and practices must be reported to Executive Committee CI 16.4)

BILATERALS AGREEMENTS CONCLUDED AND UPDATED STATEMENTS OF CREDIT/BENEFIT
(Note: these must also be reported to Executive Committee CI 17.3)

CPD REQUIREMENTS & RENEWAL OF REGISTRATION

PROBLEMS/ISSUES WITH OPERATION OF REGISTER

INTERNATIONAL/REGIONAL REGISTER

No of Registrants and disciplines
No of foreign applicants in the International/Regional Registers

RECENT MAJOR ACTIVITIES

Examples may include, but are not limited to, legislative changes, notice to amend approved Assessment Statement, emerging issues affecting professional practice within the Full Member's country, any bi-lateral agreements to be concluded, mentoring being provided to which provisional members if applicable

FOR PROVISIONAL MEMBERS ONLY

RECENT MAJOR ACTIVITIES

Provide progress towards making an application for Full Membership and who is providing mentorship, legislative changes, significant changes to registration criteria, policies and practices which may affect application for full membership, emerging issues affecting professional practice within the Provisional Member's country, any bi-lateral agreements concluded or to be concluded.

SCHEDULE 10

EMF REVIEWS

REQUEST FOR REVIEW PANEL NOMINATIONS

Nominations Required – 2 Industry and 2 Academia

ONE FORM PER NOMINEE – ALL FIELDS TO BE COMPLETED

NOMINATION MADE BY: (Name of Jurisdictions representative organisation and/or Monitoring Committee)	
JURISDICTION OR MONITORING COMMITTEE TO BE REVIEWED (as stipulated by the Secretariat):	
NAME OF PERSON NOMINATED (including Post-nominal's):	CONTACT DETAILS: Physical address: E-mail Address: Phone: (including international dialling code)
NOMINATION TYPE: ACADEMIC INDUSTRY	
POSITION TITLE:	
BOARD MEMBERSHIPS:	
PROFESSIONAL MEMBERSHIPS:	
PROFESSIONAL WORK HISTORY & ACHIEVEMENTS OF NOTE (In brief):	
PREVIOUS EXPERIENCE WITH INTERNATIONAL REVIEWS:	
DECLARATION OF NOMINATOR: I confirm that this report is to the best of my knowledge, factually correct. IEA contact name and title:	

Please forward the completed form to secretariat@ieagrements.org

SCHEDULE 11

ENGINEERS MOBILITY FORUM

GRADUATE ATTRIBUTES AND PROFESSIONAL COMPETENCIES

The Engineers Mobility Forum has adopted the above document of the International Engineering Alliance, specifically those portions that are relevant to the engineer.

In broad terms, the Washington Accord (WA) provides for mutual recognition of programmes accredited for the engineer track. The graduate attributes are exemplars of the attributes expected of graduate engineer from an accredited programme. Graduate attributes form a set of individually assessable outcomes that are the components indicative of the graduate's potential to acquire competence to practise at the level of a professional engineer. Graduate attributes are clear, succinct statements of the expected capability, qualified if necessary by a range indication appropriate to the type of programme.

The professional competency profile for the professional engineer record the elements of competency necessary for competent performance that the professional is expected to be able to demonstrate in a holistic way at the stage of admission to the international register. The professional competencies are defined as a set of assessable outcomes that are exemplars of the competency that a person must display to be registered as a professional engineer. Special emphasis would be placed on the level of responsibility demonstrated under outcome 13, consistent with the current requirements for the international register.

SCHEDULE 12

ENGINEERS MOBILITY FORUM

GLOSSARY OF KEY TERMS

Assessment Statements	A formal statement that details the criteria and procedures by which the eligibility of practitioners to appear on the International Register is intended to be determined.
Registration	Registration is the process of placing on a Register those who meet specified requirements within a jurisdiction.
License	A license is an entitlement by law granted to persons who meet relevant standards of competence.
Full Member	Full Members are organisations responsible for registers of those professionally qualified engineers who have been assessed as eligible for independent practice within their own economy, and whose qualifications are based on academic achievement substantially equivalent to that of a graduate holding an engineering degree accredited by an organisation holding membership of the Washington Accord, and who have been granted interim or full authorization to maintain a section of the International Register.
International (Register) Coordinating Committee	An international body comprising one voting member from each Monitoring Committee, and others, to develop and maintain an authoritative Register of International Professional Engineers and to promote acceptance of the International Professional Engineer.
International Register (of Professional Engineers)	A decentralised Register with a section held by each authorised Full Member. Requirements for entry to the Register are set out in the EMF Constitution paragraph 12.
Monitoring Committee	An independent authorised body established in each participating EMF member economy to develop and maintain a Register of International Professional Engineers.
Observers	Observers are representatives of other groups, which have an identity of interest with the EMF in the mutual recognition of professional engineering qualifications.
Professional Engineer	A general descriptor used to identify engineers with capabilities to undertake independent professional

	engineering practice, recognised by a national professional engineering body or state authority. EMF member economies have specific nomenclatures and requirements.
Provisional Member	Provisional Members are organisations with or in the course of developing registers of professionally qualified engineers in their own economies who intend to apply to be Full Members of the EMF. Admission as a Provisional Member does not imply and shall not be used to imply that any part of the organisation's register meets the requirements for Full Membership.
Recognition	Recognition is acceptance by an authority of demonstration of compliance with requirements. It may be applied to courses or experience (where it may be referred to as accreditation) in the determination of equivalency.
Secretariat	An organisation which provides secretarial services for the administration of the activities of a consortium of International Engineering Agreements (IEAs). The organisation providing secretarial services is appointed from organisations affiliated to the IEAs and whose duties are defined in the consortium's Multi-Party Agreement (MPA).
Visitors	Visitors are organisations interested in the work of the EMF and who attend for one meeting.

附錄 3 亞太工程師手冊



ASIA-PACIFIC ECONOMIC COOPERATION
HUMAN RESOURCES DEVELOPMENT WORKING GROUP

The APEC Engineer Manual


THE IDENTIFICATION OF SUBSTANTIAL EQUIVALENCE

APEC Engineer Coordinating Committee

July 2009

ACKNOWLEDGEMENTS

The participation and contribution of Chairs and Members of the Steering Committee, Coordinating Committee, Task Group, and Expert Advisory Group and the following institutions and bodies of APEC member economies are gratefully acknowledged.

AUSTRALIA	Department of Education, Training and Youth Affairs (DETYA) The Institution of Engineers, Australia (IEAust)	
CANADA	Canadian Council of Professional Engineers (CCPE)	
CHINA	National Administration Board of Engineering Registration (Structural)	
HONG KONG, CHINA	Education & Training Units, Works Bureau, the Government of Hong Kong Special Administrative Region Hong Kong Institution of Engineers (HKIE)	
INDONESIA	Ministry of National Education Ministry of Manpower Badan Akreditasi Nasional (BAN) Construction Services Development Board (CSDB) Persatuan Insinyur Indonesia (PII)	
JAPAN	Ministry of Education, Culture, Sports, Science and Technology (MEXT) Ministry of Land, Infrastructure and Transport (MLIT) Ministry of Economy, Trade and Industry (METI) The Institution of Professional Engineers, Japan (IPEJ) Japan Architectural Education and Information Center (JAEIC)	
KOREA	Ministry of Construction and Transportation Ministry of Labor Ministry of Science and Technology Human Resources Development Service of Korea Korea Construction Engineers Association Korea Professional Engineers Association Korea Research Institute For Vocational Education Ministry of Commerce Industry & Energy Ministry of Education & Human Resources Development Ministry of Foreign Affairs & Trade Korean Society of Civil Engineering Korean Engineering Services Association	
MALAYSIA	Board of Engineers, Malaysia The Institution of Engineers, Malaysia	
NEW ZEALAND	Ministry of Economic Development The Institution of Professional Engineers, New Zealand	
PAPUA NEW GUINEA	The Institution of Engineers, Papua New Guinea	
PHILIPPINES	Professional Regulation Commission (PRC) Commission on Higher Education (CHED) Philippine Technological Council (PTC) Technical Panel for Engineering, Architecture and Maritime Education (TPEAME)	
SINGAPORE	Institution of Engineers Singapore Professional Engineers Board	
THAILAND	Ministry of University Affairs The Engineering Institute of Thailand under H.M the King's Patronage (E.I.T) National Science & Technology Development Agency Council of Engineers Thailand	
UNITED STATES OF AMERICA	United States Council for International Engineering Practice (USCIEP), with assistance from the National Council of Examiners for Engineering and Surveying (NCEES), the Accreditation Board for Engineering and Technology (ABET), and the National Society of Professional Engineering (NSPE).	
VIET NAM	National Institute of Educational Development	

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Copyright clause to be inserted

CONTENTS

Glossary and Key Terms	1
Foreword	3
The APEC Engineer Register Schematics	4
Part 1 APEC Engineer Framework	7
Purpose	7
APEC Engineers	7
Monitoring Committees	8
APEC Engineer Coordinating Committee	8
Registers of APEC Engineers	9
Mutual Exemption	10
Establishment Provisions	10
Rules	11
Administration	11
Termination	11
Appendices	
I APEC Engineer: Guidelines on Criteria and Procedures	12
II APEC Engineer: Assessment Statements	14
III APEC Engineer: Disciplines for Registration	15
IV APEC Engineer: Monitoring Committees	17
Part 2 APEC Engineer Assessment Statement Submission Guide	19
Introduction	19
Objective	19
Structure of Assessment Statements	19
Supporting Documentation	19
Administration	20
Contacts	20
Appendices	
I APEC Engineer Register Assessment Statement	21
II Assessment Statement Flow Chart	29
Part 3 APEC Engineer Coordinating Committee Rules	30
General	30
Review Procedures	30
Appeals	31
Authorisation to Operate an APEC Engineer Register	31
General Meetings	32
Voting	32
Changes to Rules	32
Chair	32
Deputy Chair	32
Secretariat	33
Reports	33






Part 4 Mutual Exemption Framework Guidelines for Regulatory Authorities	34
Preamble	34
Issues to be Considered	34
Language	34
Specific Technical, Legal and Practice Issues	34
Assessment	35
Responsibility, Accountability and Liability	35
Implementation	35
Annex 1 – List of Changes to Document	39

GLOSSARY AND KEY TERMS

The following explanation of the usage of key terms may assist readers.

Accreditation (see also Recognition)	Quality assurance of graduate engineers by national professional bodies.
APEC Engineer	An APEC Engineer is assessed in his/her own jurisdiction as a professional engineer eligible for independent practice, who has gained a minimum of seven years experience since graduation, and has spent at least two years in responsible charge of significant engineering work. An APEC Engineer has also maintained their continuing professional development at a satisfactory level.
APEC Engineer Coordinating Committee	An international body comprising one voting member from each Monitoring Committee, and others, to develop and maintain an authoritative Register of APEC Engineers and to promote acceptance of the APEC Engineer
APEC Engineer Executive Committee	The Chair and Deputy Chair of the APEC Engineer Coordinating Committee acting together in accordance with the APEC Engineer Manual
Assessment/Evaluation	Generally these two words are used synonymously - there is no special distinction and when either is used they may refer to particular processes for reporting or comparison of achievement against criteria, standards, or a benchmark
Benchmark	An agreed level by which others can be measured
Certification/Registration/License	Generally registration is the process of placing on a Register those who meet specified requirements within a jurisdiction. Certification can have a similar meaning or may refer to the issue of a certificate or license to those who have met specified requirements for registration
Criteria/Standards	Generally, these two words are used synonymously to mean a specification of qualities required to be met.



Graduate Engineer	A person who has satisfactorily completed a higher education engineering program that is assessed as meeting required criteria in a discipline of engineering determined by a recognised professional engineering body or state authority	
License	A license is an entitlement by law granted to persons who meet relevant standards of competence	
Monitoring Committee	An independent authorised body established in each participating APEC member economy to develop and maintain a register of APEC Engineers.	
Professional Engineer	A general descriptor used to identify engineers with capabilities to undertake independent professional engineering practice, recognised by a national professional engineering body or state authority. APEC member economies have specific nomenclatures and requirements.	
Professional Engineer Body	A national non-government or independent organisation with membership comprising professional engineers.	
Recognition (see also Accreditation)	<ol style="list-style-type: none"> 1. Acceptance by an authority of demonstration of compliance with requirements. May be applied to courses or experience in the determination of equivalencies. 2. Quality assurance of graduate engineers by state authorities. 	
Registration	Registration is the process of placing on a register those persons who meet specific requirements within a jurisdiction	

FOREWORD

The APEC leaders' meeting at Osaka in 1995, agreed on the need for facilitating the mobility of qualified persons among the member economies. Consistent with the Osaka Action Agenda, the meeting of 18 member economies of APEC HRD Ministers in Manila in January 1996 supported the acceleration and expansion of project initiatives on the mutual recognition of skill qualifications.



The APEC HRD Working Group, which met in Wellington, New Zealand in January 1996, agreed to an Australian initiation on the Project, focusing on professional engineering accreditation, recognition and development.

During the First Steering Committee Meeting held in May 1996 in Sydney, Australia, a consensus was reached to proceed with a comprehensive survey of professional institutions and societies, the registration of professional engineers and of engineering education and development. The results of the survey would form a framework for best practices in professional engineering accreditation, recognition and development.

This Manual sets out the methodology for assessing the academic and professional experience of professional engineers against a standard established by the member economies for determining substantial equivalence for professional engineers.

The initial operation of authorized APEC Engineers Registers by the eight founding members commenced on 1 November, 2000 and is based on the *APEC ENGINEER MANUAL: The Identification of Substantial Equivalence* of November, 2000. Thirteen economies participated (more than 60% of the 21 APEC economies) in the sixth APEC Engineer Coordinating Committee Meeting, held at Washington DC in June 2007.

This manual provides a practical framework to facilitate and improve mobility for professional engineers. This first revision included some further refinement in the manual, which was agreed to at the Coordinating Committee Meeting held in 2001 at Kuala Lumpur. The second revision was agreed at the Coordinating Committee Meeting held in 2003 at Rotorua, New Zealand, made the listing of disciplines optional, allowed monitoring visits to be done on-line, followed by on-site monitoring visits if the need arises and provided a dispute resolution procedure whereby dissenting members would submit a minority report if a unanimous decision by the review team should not be reached.

The Manual has undergone continuous improvements and refinements at subsequent biennial APEC Engineer Coordinating Meetings. The significant improvements are:

- Monitoring reviews since 2000 have been carried out in two stages. The first stage is a paper or desktop review of written documents supplied by a Monitoring Committee. The second stage is only required when the review team is not satisfied with the level of compliance after the first stage review. The second stage review comprises a review team visit to the economy.
- Harmonisation of procedures for APEC Engineers and EMF International Engineers has progressed, with a joint review and further harmonisation expected to be made possible in the near future.
- Through a contractual agreement, IPENZ provides the Secretariat for the APEC Engineer Coordinating Committee, along with five other international agreements: EMF International Engineer Register, ETMF International Engineering Technologist Register; and three Education Accords, namely the Washington Accord for Engineers, the Sydney Accord for Engineering Technologists and the Dublin Accord for Technicians.
- The Governing Group, comprising the Chairmen of the six agreements, oversees the performance of the Secretariat.

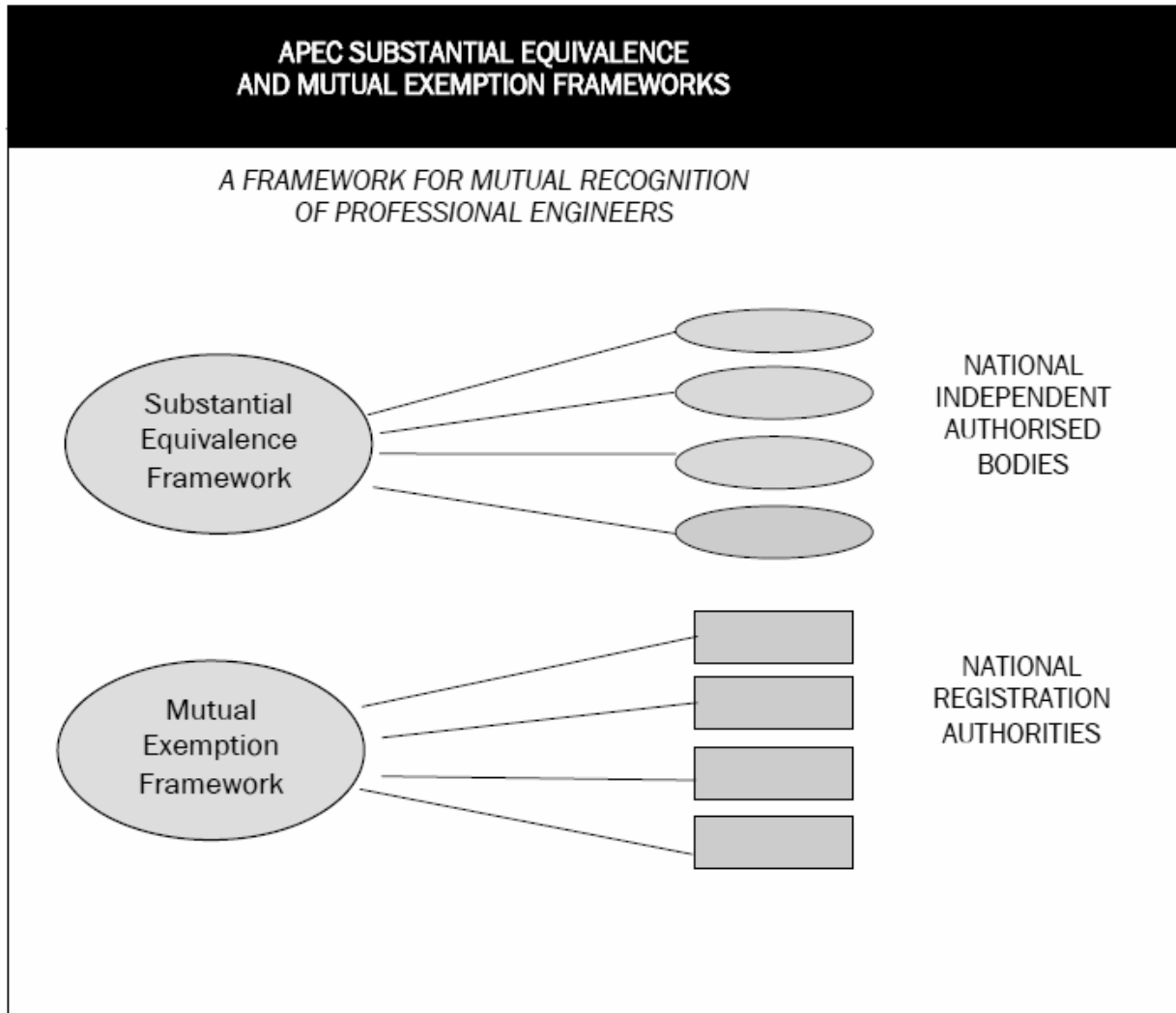
The APEC Engineer Coordinating Committee will promote recognition of registered APEC Engineers

by trade agreement negotiators through Mutual Recognition Arrangements in the region.

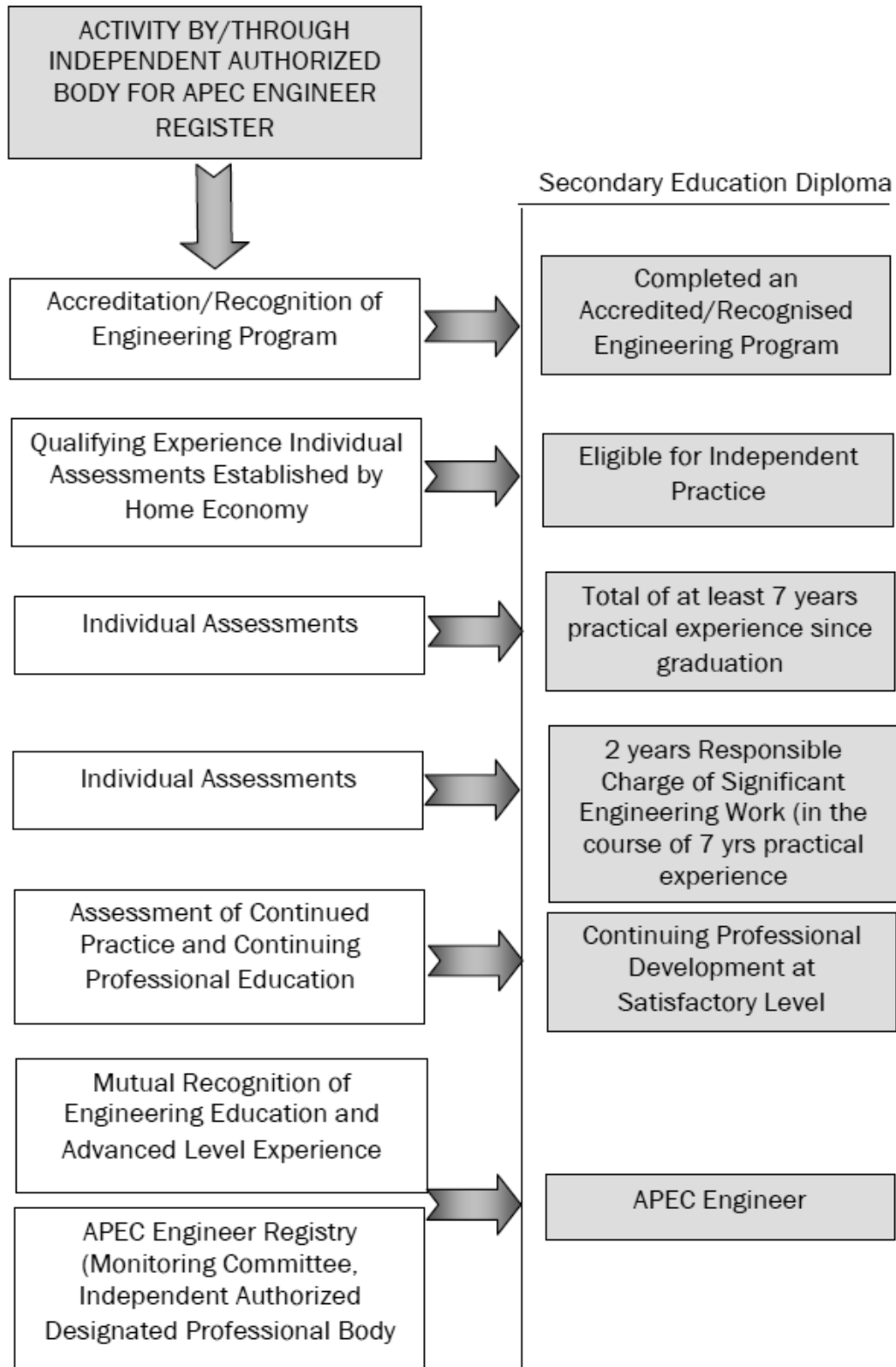
I hope this revised Manual will facilitate the mobility of engineers between participating economies and encourage more economies in the region to participate, with the aim of promoting the mobility of engineers.

Ir. Dr. GUE, See-Sew
Chair, APEC Engineer Coordinating Committee
February 2008

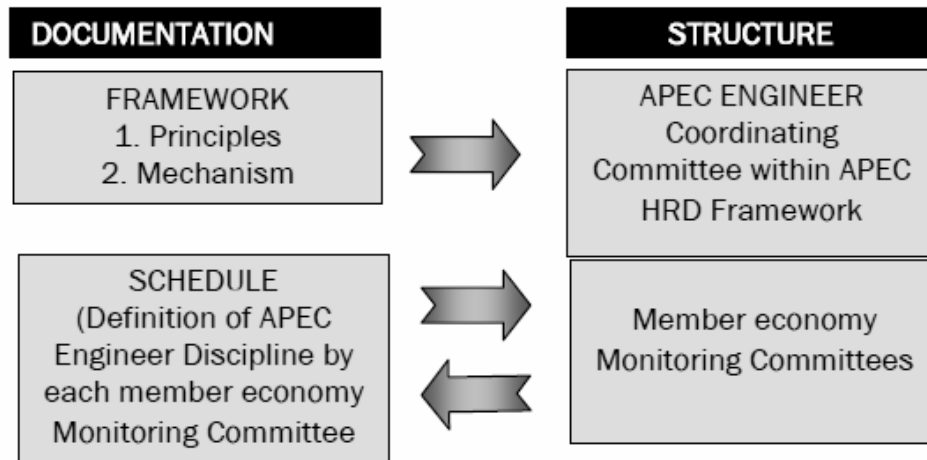
THE APEC ENGINEER SCHEMATICS



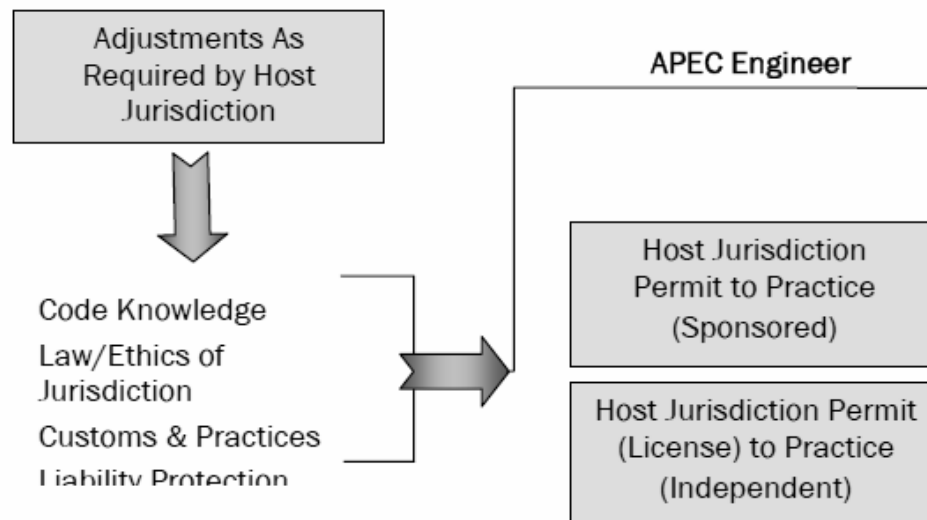
THE APEC ENGINEER FRAMEWORK



SUBSTANTIAL EQUIVALENCE FRAMEWORK



MUTUAL EQUIVALENCE FRAMEWORK



1. Purpose

The *APEC Engineer Manual* provides overall guidance to participating APEC economies for the operation of APEC Engineer Registers. The Manual includes a description of the Framework as a whole, the particular requirements of the assessment system, the APEC Engineer Coordinating Committee Rules, and recommendations for mutual exemption for regulatory and licensing authorities.

Monitoring Committees of each participating economy develop an Assessment Statement that includes criteria and procedures for approval by the APEC Engineer Coordinating Committee. In accordance with the Framework, the eligibility of practitioners for designation as an APEC Engineer is determined by reference to five performance criteria, *which are to be considered as a package*. Some of these criteria are relatively objective in nature, while others will require the Monitoring Committee to exercise a measure of professional judgment, particularly in relation to exceptional candidates.

The participants to this Framework intend to facilitate practice by professional engineers by establishing a system of mutual recognition based on confidence in the integrity of the systems of assessment for professional practice within each economy, secured through continuing mutual monitoring, evaluation and verification of those systems.

2. APEC Engineers

An APEC Engineer is defined as a person who is recognised as a professional engineer within an APEC economy, and who has satisfied an authorised body in that economy, operating in accordance with the criteria and procedures approved by the APEC Engineer Coordinating Committee, that they have:

- completed an accredited or recognised engineering program, or assessed recognised equivalent; and
- been assessed within their own economy as eligible for independent practice; and
- gained a minimum of seven years practical experience since graduation; and
- spent at least two years in responsible charge of significant engineering work; and
- maintained their continuing professional development at a satisfactory level.

In addition all practitioners seeking registration as APEC Engineers must also agree to be:

- bound by the codes of professional conduct established and enforced by their home jurisdiction and by any other jurisdiction within which they practice; and be
- held individually accountable for their actions, both through requirements imposed by the licensing or registering body in the jurisdictions in which they work and through legal processes.

Each practitioner included on the APEC Engineer Register may be identified with one or more recognised engineering disciplines, selected from a list approved by the Coordinating Committee, within which that practitioner has been assessed as being eligible for independent practice by the Monitoring Committee holding the Register. Appendix III refers.



Guidelines on the above criteria for APEC Engineers are at Appendix I to this Framework. The participants consider that other guidelines in this Manual should be observed in assessing candidates for designation as APEC Engineers. These guidelines have been attached as Appendix II to this Framework.

3. Monitoring Committees

This Framework is based on the concept that a Monitoring Committee will be established in each participating economy, to develop and maintain a Register of APEC Engineers in that economy. In most cases, while recognised as competent by, and possibly exercising some functions on behalf of, the authorities responsible for the registration and licensing of professional engineers in the economy concerned, the Monitoring Committee will be an independent authorised body, and will be able to certify the qualifications and experience of individual professional engineers directly or by reference to other competent bodies.

The specific responsibilities of Monitoring Committees for the development and maintenance of the APEC Engineer Register are given below at Section 5, Register of APEC Engineers, and the broader Terms of Reference are at Appendix IV to this Framework.

4. APEC Engineer Coordinating Committee

To ensure consistency in application of the agreed criteria, ultimate authority for conferring the title of APEC Engineer will remain with the APEC Engineer Coordinating Committee, which is to include one voting representative from each Monitoring Committee. That authority may be delegated from time to time by the APEC Engineer Coordinating Committee to an authorised Monitoring Committee in each participating economy.

The main role of the Coordinating Committee is to facilitate the maintenance and development of authoritative and reliable decentralised Registers of APEC Engineers, and to promote the acceptance of APEC Engineers in each participating economy as possessing general technical and professional competence that is substantially equivalent to that of professional engineers registered or licensed in that economy.

The Committee will also:

- develop, monitor, maintain and promote mutually acceptable standards and criteria for facilitating practice by APEC Engineers throughout the participating APEC economies;
- seek to gain a greater understanding of existing barriers to such practice and to develop and promote strategies to help governments and licensing authorities reduce those barriers and manage their processes in an effective and non-discriminatory manner;
- through the mechanisms available within APEC, encourage the relevant governments and licensing authorities to adopt and implement streamlined procedures for granting rights to practise to APEC Engineers;
- identify, and encourage the implementation of, best practice for the preparation and assessment of engineers intending to practise at the professional level; and
- continue mutual monitoring and information exchange by whatever means are considered most appropriate, including:
- regular communication and sharing of information concerning assessment procedures, criteria, systems, manuals, publications and lists of recognised practitioners;

- invitations to verify the operation of the procedures of other participants; and
- invitations to observe open meetings of any boards and/or commissions responsible for implementing key aspects of these procedures and relevant open meetings of the governing bodies of the participants.
- reporting on the use by engineers to monitor the performance of the Registers.

To maximise communication between APEC economies, the APEC Engineer Coordinating Committee will issue an open invitation for the appropriate bodies within non-participating APEC economies to nominate non-voting members to serve on the Committee.

These members will not be entitled to vote on any issue, nor to participate in the debate on the initial or continued authorisation of a Monitoring Committee to operate a Register of APEC Engineers within an economy.

The APEC Engineer Coordinating Committee Rules are at Part 3 of *The APEC Engineer Manual*.

5. Registers of APEC Engineers

The primary objective of each Monitoring Committee will be to develop and maintain a Register of APEC Engineers for practitioners based in the relevant economy.

Each Monitoring Committee seeking authorisation to operate a Register in their economy will prepare a statement setting out the criteria and procedures by which applicants for designation as APEC Engineers within that economy are proposed to be assessed. Each statement will be reviewed by the APEC Engineer Coordinating Committee in accordance with its published Rules and the guidelines attached as Appendix 1 to this Framework.

Following that review, authorisation will require support from two-thirds of the Monitoring Committees authorised to operate Registers. The statement of criteria and procedures supplied by each authorised Monitoring Committee will form an integral part of this Framework.

Once a Monitoring Committee has been authorised by the APEC Engineer Coordinating Committee to establish a Register of APEC Engineers within an economy, the Monitoring Committee will arrange to provide timely and accurate information on the status of any practitioner claiming to be listed on that Register to any person or organisation having a legitimate need for access to such information, to exchange relevant data with the other authorised Monitoring Committees, and, within their economy, to function as a single point of contact on all matters relating to APEC Engineers.

Each authorised Monitoring Committee must further undertake to:

- accept and promote the substantial equivalence of the competence of APEC Engineers registered by other authorised Monitoring Committees;
- make every reasonable effort to ensure that the bodies responsible for registering or licensing professional engineers to practise within their economy recognise that APEC Engineers have general technical and professional competence substantially equivalent to that of engineers already registered or licensed in that economy;
- ensure that all practitioners registered by them as APEC Engineers comply fully with the requirements specified in the APEC Engineer Framework, and that a substantial majority of these practitioners have demonstrated their compliance through the primary procedures and

criteria set out in the Assessment Statement for that economy;

- ensure that practitioners applying for registration as an APEC Engineer are required to provide evidence that they have engaged in an appropriate level of recent continuing professional development (the emerging norm for continuing professional development programs in APEC economies is an average of 50 weighted hours per year of formal and informal training broadly related to the area of practice); and
- ensure that practitioners registered by them as APEC Engineers apply from time to time for renewal of their registration, and, in so doing, provide evidence that they have engaged in an appropriate level of recent continuing professional development.



6. Mutual Exemption

The participants recognise that any agreement, which would confer exemption, in whole or in part, upon APEC Engineers from further assessment by the statutory bodies that control the right to practise in each economy, could be concluded only with the involvement and consent of those statutory bodies and the relevant governments. The APEC Engineer Coordinating Committee recommends that:

- (i) relevant governments pursue this within the broader APEC framework, and
- (ii) negotiation of agreements be consistent with the General Agreement on Trade in Services (GATS) Article VII.



The participants note that only complete or partial exemption from assessment mechanisms operating within the jurisdiction in which an APEC Engineer seeks to become licensed or registered is at issue, not exemption from the requirement to become licensed or registered in the economy concerned.

The participants note that licensing or registering authorities have statutory responsibility for protecting the health, safety and welfare of the community within their jurisdictions, and may require applicants for the right to independent practice to submit themselves to some form of supplemental assessment.

The participants consider that the objectives of such assessment should be restricted to providing the relevant authorities with a sufficient degree of confidence that the practitioners concerned:

- understand the general principles behind applicable codes of practice;
- have demonstrated a capacity to apply such principles safely and efficiently; and
- are familiar with other special requirements operating within the host jurisdiction.

The participants consider that, in the case of APEC Engineers, successful completion of an adaptation period of sponsored practice in the jurisdiction where they seek to become licensed or registered might be more effective than requiring them to undertake other kinds of supplemental assessment, and that APEC Engineers should be granted access to opportunities for such sponsored practice with minimum formality.

Mutual Exemption Framework Guidelines for Regulatory Authorities are at Part 4 of *The APEC Engineer Manual*

7. Establishment Provisions

Representatives of an APEC economy seeking to participate in the APEC Engineer will recommend to the appropriate authorities within that economy that a representative be nominated to participate as a non-voting member on the APEC Engineer Coordinating Committee.

Each Monitoring Committee established or identified through this process will proceed to prepare a draft Assessment Statement in accordance with this Manual, and will provide a copy of the draft Statement to the Secretariat and, through the Secretariat, to all Monitoring Committees.

The Assessment Statement will be considered by the APEC Engineer Coordinating Committee as soon as practicable after the draft Assessment Statement has been distributed by the Secretariat and the relevant Monitoring Committee has had the opportunity to respond to any comments raised by other Monitoring Committees and to submit an amended draft Assessment Statement.

The draft Assessment Statement provided by each Monitoring Committee will then be reviewed in accordance with the approved Rules (see Part 3) and may, in order to ensure consistency and mutual confidence, be:

- approved as submitted; or
- with the consent of the proponent, approved with amendments; or
- referred back for further consideration, with suggestions for improvement.

Where approval has been granted, the Monitoring Committee involved will be provisionally authorised to develop and maintain a Register of APEC Engineers within their economy in accordance with their statement of criteria and procedures.

Their continued authorisation will be subject to periodic review in accordance with the approved Rules.

8. Rules

Appropriate Rules are established by the APEC Engineer Coordinating Committee to ensure that the work of the Committee can be undertaken in a satisfactory and expeditious manner. The adoption of, or amendment to, such Rules will proceed only through a positive vote by at least two-thirds of the Monitoring Committees in a General Meeting.

The APEC Engineer Coordinating Committee Rules are at Part 3 of *The APEC Engineer Manual*.

9. Administration

General Meetings of the APEC Engineer Coordinating Committee will be held at least once in each two year period to review the Rules, effect such amendments as may be considered necessary, consider the outcomes of any reviews undertaken of the criteria and procedures being implemented by authorised Monitoring Committees, and deal with applications for membership and/or authorisation. The administration of the APEC Engineer Coordinating Committee will be facilitated by a Secretariat appointed and operated in accordance with the Rules.



10. ANNUAL FEES

Members are required to pay an annual fee as determined by the MPA to which APEC Engineer is a participating agreement.

In the event of non-payment of the annual fee, in terms of the MPA, the Member will lose their membership of APEC Engineer.

Reinstatement will require the former Member to meet requirements laid down by the Executive Committee in conjunction with the MPA and may include:

- Payment of outstanding fees,
- Payment of an application fee, and
- Completion of the full process as for a new applicant for membership.

11. Termination

The APEC Engineer Coordinating Committee will operate for so long as it is acceptable and desirable to participating economies. Any authorised Monitoring Committee wishing to surrender its authorisation and cease operation of an APEC Engineer Register within their economy must give at least twelve months notice to the APEC Engineer Executive Committee through the Secretariat. No such cessation of operation will, of itself, affect standing granted prior to that cessation by other economies to APEC Engineers on the basis of their listing on the terminated Register.

Where termination is for failure to meet financial obligations, the defaulting Agreement Participant shall be removed from being a Member of all relevant Agreements unless through the MPA (by way of its Governing Group and in consultation with their Deputy Chairs), accept that there are exceptional circumstances giving rise to the non-payment of annual subscription. In such circumstances the Governing Group may give the Agreement Participant a reasonable time within which to make payment. If payment is not received within this period, the membership of all Agreements for the defaulting Agreement Participant will lapse.

Reinstatement of an Agreement Participant removed from membership of any IEA Agreement for non-payment of annual subscription will require the former Agreement Participant to meet appropriate requirements laid down by the Governing Group and the Chair and Deputy Chair of the relevant Agreements. Such requirements may include:

- Payment of outstanding fees,
- Payment of an application fee for each agreement,
- The completion of the full process as for a new applicant for Membership for each Agreement.



APPENDIX I: APEC Engineers: Guidelines on Criteria and Procedures

The purpose of these guidelines is to assist Monitoring Committees to develop a statement of criteria and procedures for submission to the APEC Engineer Coordinating Committee. In accordance with this Framework, the eligibility of practitioners for designation as an APEC Engineer is determined by reference to five performance criteria, which are to be considered as a package. Some of these criteria are relatively objective in nature, while others will require the Monitoring Committee to exercise a measure of professional judgment, particularly in relation to exceptional candidates. These notes represent the consensus view of the participants as to the benchmarks against which each criterion should be considered.

Completed an accredited or recognised engineering program, or assessed recognised equivalent

In order to be listed on an APEC Engineer Register, practitioners must demonstrate to the relevant Monitoring Committee a level of academic achievement at, or following, completion of formal education substantially equivalent to that associated with successful completion of:

- an engineering degree 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
- an engineering degree accredited by an organisation holding full membership of, and operating in accordance with the terms of, the Washington Accord; or
- the 1st Step Examination of the Professional Engineer Examination set by the Institution of Professional Engineers, Japan; or
- 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
- an engineering program accredited by a body independent of the education provider, or an examination set by an authorised body within an economy, provided that the accreditation criteria and procedures, or the examination standards, as appropriate, have been submitted by one or more Monitoring Committees to, and endorsed by, the APEC Engineer Coordinating Committee.



These examples include four existing mechanisms, the outcomes of which are considered to fall within the band of acceptable standards for academic achievement. The final option is designed to be an open-ended mechanism, allowing alternative procedures and criteria to be submitted by a Monitoring Committee for evaluation by the Coordinating Committee. The list is therefore not intended to be definitive or comprehensive.

This approach does not restrict participation to economies in which engineering programs are accredited, or examinations set, by an independent professional body, and does not imply that acceptable academic achievement can be demonstrated only within the context of an engineering degree program.

Been assessed within their own jurisdiction as eligible for independent practice

The assessment may be undertaken by the Monitoring Committee, by a competent professional association, or by an authority with responsibility for registration or licensing of professional engineers within the relevant economy.

Gained a minimum of seven years practical experience since graduation

The exact definition of practical experience will be at the discretion of the Monitoring Committee concerned, but the work in question should be clearly relevant to the fields of engineering in which the applicant claims expertise. During the initial period, the candidate should have participated in a range of roles and activities appropriate to these fields of engineering. However, their roles while they are in responsible charge of significant engineering work may be more focused.

Spent at least two years in responsible charge of significant engineering work

The definition of significant engineering work will vary between economies and disciplines. As a general guideline, the work should have required the exercise of independent engineering judgment, the projects or programs concerned should have been substantial in duration, cost, or complexity, and the applicant should have been personally accountable for their success or failure. In general, an applicant may be taken to have been in responsible charge of significant engineering work when they have:

- planned, designed, coordinated and executed a small project; or
- undertaken part of a larger project based on an understanding of the whole project; or
- undertaken novel, complex and/or multi-disciplinary work.

The specified period of two years may have been completed in the course of the seven years practical experience since graduation.

Maintained their continuing professional development at a satisfactory level

The nature and extent of the required participation in continuing professional development, and the manner in which compliance is audited, will remain at the discretion of the Monitoring Committee concerned, but should reflect emerging norms for such participation by professional engineers within the APEC economies.

Registered APEC Engineers must agree to the following.

- *Codes of professional conduct.* All practitioners seeking registration as APEC Engineers must also agree to be bound by the codes of professional conduct established and enforced by their home jurisdiction and by any other jurisdiction within which they are practising. Such codes normally include requirements that practitioners place the health, safety and welfare of the community above their responsibilities to clients and colleagues, practice only within their area of competence, and advise their clients when additional professional assistance becomes necessary in order to implement a program or project. Monitoring Committees are required to certify that at registration the candidate has signed a statement of compliance with such applicable professional codes.
- *Accountability.* APEC Engineers must also agree be held individually accountable for their actions, both through requirements imposed by the licensing or registering body in the jurisdictions in which they work and through legal processes.

Appendix II: APEC Engineer: Assessment Statements

The APEC HRD Working Group *Discussion Paper, Framework for Best Practices in Professional Engineering Accreditation, Recognition and Development*, December 1997, defines in broad terms, the qualifications and experience required of a practitioner seeking registration as an APEC Engineer. The APEC HRD Working Group *Best Practices in Professional Engineering Accreditation, Recognition and Development Survey Report*, May 1997, outlines the practices currently used by eight member economies for the identification of professional engineers.

The preparation of an Assessment Statement for candidates seeking registration as an APEC Engineer will involve identification and nomination of the following elements by the Monitoring Committee in each participating economy:

1. One or more mechanisms for accrediting or recognising:
 - structured educational programs which qualify individuals to enter professional engineering practice, and/or
 - assessment instruments which provide an alternative or supplementary mechanism for individuals to demonstrate that they have reached an appropriate educational standard.
2. One or more mechanisms for assessing qualified individuals as being eligible for independent professional engineering practice, normally after those individuals have completed a period of supervised or monitored professional experience.
3. A statement describing how academic practitioners meet the APEC Engineer requirements.
4. A mechanism for confirming that independent engineering practitioners have:
 - gained a minimum of seven years practical experience since graduation, and
 - completed at least two years in responsible charge of significant engineering work, and
 - maintained a satisfactory level of continuing professional development, and
 - complied with, and are bound by, an appropriate code of conduct.
5. A mechanism for ensuring that registrants are audited at regular intervals to ensure that they have continued to comply with the conditions of registration.

For each element, the Assessment Statement for each member economy may include:

- mechanisms applicable to practitioners in all disciplines, and/or
- mechanisms applicable to practitioners in specified disciplines, and/or
- national, regional and provincial mechanisms, and/or
- existing or superseded mechanisms

which are recognised by the Monitoring Committee as appropriate in assessing candidates for registration as APEC Engineers. The Monitoring Committee may attach restrictions to any or all mechanisms (for example, by requiring that assessment under a mechanism be accepted only in respect of candidates who completed the process by a specified date, or who gained a specified minimum period of practical experience in the relevant discipline or disciplines). All such restrictions must be clearly identified.



Assessment Statements are intended to be dynamic documents, with necessary amendments being effected by the responsible Monitoring Committee from time to time and notified to the APEC Engineer Coordinating Committee.

Appendix III: APEC Engineers: Disciplines for Registration

Principles

For each practitioner included on the register of APEC Engineers, the Monitoring Committee may identify one or more recognised engineering disciplines, selected from a list approved by the Coordinating Committee, within which that practitioner has been assessed as being eligible for independent practice. At the time of publication the Coordinating Committee has approved the following disciplines:

• AEROSPACE ENGINEERING	4	
• BIOENGINEERING		3
• BUILDING SERVICES ENGINEERING	4	
• CHEMICAL ENGINEERING		
• CIVIL ENGINEERING		
• ELECTRICAL ENGINEERING		
• ENVIRONMENTAL ENGINEERING		
• FIRE ENGINEERING	4	
• GEOTECHNICAL ENGINEERING		
• INDUSTRIAL ENGINEERING		
• INFORMATION ENGINEERING		3
• MECHANICAL ENGINEERING		
• MINING ENGINEERING		
• PETROLEUM ENGINEERING	4	
• STRUCTURAL ENGINEERING		
• TRANSPORTATION ENGINEERING	5	

The sixteen specified engineering disciplines are those operating in participating economies at the time of publishing this Manual. The disciplines include subjects and areas of practice that cover a broad field. Economies have agreed to define the scope of each of these disciplines.

APEC Engineers will be expected to satisfy technical issues specific to the host jurisdiction. Economies have agreed to specify these technical issues, by discipline during the process of negotiation of mutual exemption agreements.

Not all economies license or register professional engineers by discipline for local practice. However, all economies have confirmed that they are prepared to identify the discipline in the context of which such engineers were originally assessed. Economies that wish to propose further disciplines be added to the above list should do so when they submit assessment statements for consideration by the Coordinating Committee.

The Coordinating Committee will continue to review the desirability of extending the above list of disciplines to meet emerging needs of governments, industry and the engineering professions within APEC member economies, and may, by unanimous resolution, add new disciplines to the list from time to time.

Professional Practice

Registration indicates maintained competence in one or more aspects of professional practice. The definition of an APEC Engineer recognises that engineers' responsibilities often evolve during their career, reflecting an increasing emphasis on management roles, and causing practitioners to engage in continuing professional development activities relevant to those roles. In general terms, an APEC Engineer classified in any discipline may, having due regard to their current competence:

- accept direct or indirect responsibility for the planning, design, execution or review of some specialised technical aspects of engineering projects or programs; and/or

- accept ultimate responsibility, which may extend beyond a single discipline, for the technical integrity of engineering projects or programs; and/or
- engage in professional practice which, directly or indirectly, calls upon their engineering knowledge, skills, experience and judgment, and has a significant influence on the technical direction of engineering projects or programs; and/or
- engage in other professional activities, including, in particular, project management, which call on their engineering qualifications and experience, and which place demands upon their skills, knowledge and judgment which are comparable to those experienced in the above aspects of engineering practice.

Procedures

The Monitoring Committee established in each participating economy will prepare, and submit to the Coordinating Committee for review, an Assessment Statement covering at least one of the above engineering disciplines.

The subsequent responsibility of a Monitoring Committee will be to establish and maintain a Register of APEC Engineers which certifies the competence of practitioners in each discipline for which an Assessment Statement has been submitted to and approved by the Coordinating Committee, and to accept and promote the substantial equivalence in competence of all APEC Engineers registered in that discipline.

Members of the Coordinating Committee will abstain from voting on the initial or continuing acceptance of those elements of an assessment statement which relate only to a discipline that is not covered by the Monitoring Committee which they represent.

A Monitoring Committee may at any time submit a further Assessment Statement in respect of a recognised discipline in which that committee does not currently certify the competence of APEC Engineers.

Appendix IV: APEC Engineer Monitoring Committees

Terms of Reference

Each Monitoring Committee:

- develops and maintains a Register of APEC Engineers in its own economy;
- functions as a single point of contact on all matters relating to APEC Engineers;
- accepts and promotes the substantial equivalence in competence of all APEC Engineers;
- advises bodies responsible for registering or licensing professional engineers accordingly;
- provides timely and accurate information on whether individuals are APEC Engineers;
- develops and maintains an assessment system to ensure that APEC Engineers have:
- completed an accredited or recognised engineering program or assessed recognised equivalent;

and

- been assessed within the economy as eligible for independent practice; and
- gained a minimum of seven years practical experience since graduation; and
- spent at least two years in responsible charge of significant engineering work; and
- maintained their continuing professional development at a satisfactory level;
- where appropriate, authorises other bodies to carry out assessments against these criteria;
- ensures that a mechanism is available for individuals to appeal against adverse judgments;
- audits compliance by such authorised bodies with the conditions of authorisation;
- directly, or through authorised bodies:
- audits continuing compliance by APEC Engineers with the conditions of registration; and
- receives, investigates and resolves complaints against APEC Engineers; and
- provides advice on professional conduct and professional practice;
- maintains and disseminates a list of persons whose APEC Engineer registration has been cancelled;
- submits statements to enable the Coordinating Committee to review the proposed system;
- publishes information on its assessment procedures, criteria, systems and performance;
- provides such other information as may be required by the Coordinating Committee;
- maintains records and documents in a form suitable for review by other economies;
- provides representatives to assist in reviewing other assessment systems; and
- participates in the other deliberations of the Coordinating Committee.



Membership

The structure and constitution of a Monitoring Committee will naturally reflect the particular circumstances of the economy within which it is established. In general terms, the committee should include representatives from government, industry, relevant professional associations, and higher education institutions delivering engineering programs, and should be recognised as competent by the authorities responsible for registration and licensing within the economy.

In some cases, an existing board or committee may already be undertaking many of the tasks implied in the above terms of reference, and can be nominated by the economy to undertake the role of the Monitoring Committee for that economy.

While decisions on the structure and constitution of the Monitoring Committee are ultimately reserved for the economy concerned, the committee will form an important part of the overall assessment system for that economy, and the statement on that system which will be provided to the Coordinating Committee must explain how the Monitoring Committee intends to gain access to the resources and expertise required to discharge the above Terms of Reference.

Introduction

The APEC Engineer Assessment Statement facilitates the transparency of engineer recognition systems applied by each APEC Engineer Monitoring Committee. *The Guide is not prescriptive, but where appropriate, its use for submissions is encouraged.*

Objective

The Assessment Statement Submission Guide (the Guide) at Appendix I is to enable Monitoring Committees to present a reasonably consistent structure in all Assessment Statements. It is intended to be sufficiently broad to accommodate the different recognition practices for professional engineers of engineering disciplines identified by participating APEC member economies.

This structure is preferred for:

- convenient collation and consistent presentation of transparent registration information by the Monitoring Committee of each participating member economy;
- consideration of Assessment Statements by the APEC Engineer Coordinating Committee; and
- subsequent ease of access and understanding of all APEC Engineer Registers by participants.

Structure of Assessment Statements

APEC Engineer Assessment Statements for each participating economy provide fundamental information on the:

- organisation and administration of the APEC Engineer Register;
- identification of engineering disciplines for the APEC Engineer (see Part 1, Appendix III - Guide to APEC Engineer Disciplines for Registration);
- compliance of criteria used by participating economies with the APEC Engineer Substantial equivalence Framework criteria; and
- assessment processes and records of assessment for each APEC Engineer.

Supporting Documentation

Principal supporting documents may be attached to Assessment Statements.

Reference should be made to other relevant publications used in the assessment process. Where such reference is made a synopsis of the publication should be provided. Publications so referenced should be made available on request to members of the APEC Engineer Coordinating Committee and to participating APEC economies. A copy should be made available at meetings considering submissions for the conduct of an APEC Engineer Register.

Administration

The Guide is made available to the participating member economies through the contact representative of each Monitoring Committee.

A Flow Chart for the APEC Engineer Assessment Statement submission process is at Appendix II.

Contact representatives of participating economies are asked to

- coordinate Assessment Statement submissions in the format of Attachment I with the relevant engineering organisations in their economy, and with other organisations that are involved in the preparation of an APEC Engineer Register; and to
- forward the submissions directly to the appointed Secretariat for distribution to contacts for other economies participating in the APEC Engineer Register and to the APEC Engineer Executive Committee.

Outcomes from the APEC Engineer Coordinating Committee meetings will be advised to the contact representatives of economies participating in the APEC Engineer. Member economies working towards the development of Monitoring Committees and Assessment Statements will also be advised of Assessment Statements received for consideration and of the outcomes of meetings.

Liaison is encouraged directly between originators of Assessment Statements. Assistance may be obtained from the Secretariat and members of the APEC Engineer Coordinating Committee.

Submissions of Assessment Statements must be in English, preferably in electronic format. Where Assessment Statements have been provided in electronic format they will be accessible in the public area of the International Engineering Agreements web at: <http://www.ieagreements.com/APEC/AStatements.cfm>

Contacts

Secretariat
APEC Engineer Coordinating Committee
c/o IPENZ
PO Box 12241
Wellington
New Zealand

Appendices

Appendix I - APEC Engineer Register Assessment Statement
Appendix II - Assessment Statement Flow Chart



Appendix I: APEC Engineer Register (Member Economy)

(Draft) Assessment Statement (Engineering Disciplines)



Introduction

The Monitoring Committee recognises the following bodies and mechanisms for the assessment of (discipline) engineers as eligible to be placed on the (member economy) APEC Engineer Register.

This Assessment Statement provides fundamental information on the overall assessment mechanism used for (discipline/s) engineering submitted for recognition as part of the APEC Engineer Register.

Approved Assessment Statements developed in accordance with this Guide may be sought directly from participating economies or through the Secretariat.



PART A - THE MONITORING COMMITTEE

Chair

Members

Contact person, including contact details

A brief statement of current or recent appointments held by the Chair and members may be appropriate.

PART B - ASSESSMENT MECHANISMS

A brief description of each assessing body and mechanism is required with reference to specific documentation. Principal documents may be attached, other documents may be referenced and tabled at reviews, and be available on request.

The Assessment Statement may include:

- mechanisms applicable to practitioners in all disciplines;
- mechanisms applicable to practitioners in specified disciplines (and in particular for academic practitioners);
- national, regional and provincial mechanisms;
- superseded mechanisms.



Please include for each part of the Assessment Statement:

- Title of each assessment mechanism recognised by the Monitoring Committee;
- Name of each assessing body recognised by the Monitoring Committee;
- Principal person and contact person for each body; and
- Contact details

1. Accreditation or Recognition of Higher Engineering Education Programs

1a. Assessment Mechanisms

Details of current accreditation or recognition mechanisms to confirm and ensure the quality of (discipline/s) engineering education in universities or higher education institutions.

1b. Alternative Assessment Mechanisms

Details of current alternative mechanisms other than the above accreditation or recognition mechanism to confirm and ensure equivalence in education standard of other candidates.

1c. Superseded Assessment Mechanisms

Brief information on any superseded assessment mechanisms, and period of use, that were used for the assessment of higher education of more senior candidates for APEC Engineer Registration.

2. Assessment for independent practice

2a. Outline of Current Assessment Mechanism for Independent Practice in (Discipline/s) Engineering.

- Overview,
- Structure of application by candidate,
- Structure of applicant's report - where required,
- Continued professional development requirements,
- Structure of written or oral examination of candidate - where required,
- Structure of interview of candidate - where required,
- Approval conditions, for example compliance with code of conduct.

2b. Outline of Superseded Assessment Mechanism for Independent Engineering Practice in (Discipline/s) Engineering

Brief information on any superseded assessment mechanisms, and period of use, that were used for the assessment of independent practice by more senior candidates for APEC Engineer Registration.

3. Particular APEC engineer assessment items

3a. Seven Years Experience after Graduation in (Discipline/s) Engineering

- Overview
- Structure of applicant's report - where required
- Structure of written or oral examination of candidate- where required
- Structure of interview of candidate - where required

3b. Two Years Experience in Responsible Charge of Significant Engineering Work

- Overview
- Structure of applicant's report - where required
- Structure of written or oral examination of candidate - where required
- Structure of interview of candidate - where required

3c. Professional Development

State the body responsible for the professional development of (discipline) engineers and provide a brief statement of the policy, objectives, organisation, audit and management system for professional development. State the periods of application of assessment mechanisms where changes have occurred.

3d. Compliance with Code of Conduct

State the engineer body responsible for the code of conduct, the code of conduct and the mechanism for assessing compliance with the code.

4. Audit of APEC engineers

State the engineer body recognised by the Monitoring Committee and the audit mechanism for the APEC Engineer registrants of the member economy.

PART C - ENGINEERING DISCIPLINES

Provide information on the scope of education programs and on the areas of practice for engineering disciplines nominated for registration.

PART D - ASSESSMENT DOCUMENTATION AND REPORTS

The following should be attached to the Assessment Statement

- Cover sheet
- Guide for Candidates and Assessors
- Application Form for Candidates (See example at Attachment 1)
- Assessment Report (See example at Attachment 2)
- Particular information on interpretations of the APEC Engineer Framework (See example at Attachment 3)

PART E - ATTACHMENTS AND REFERENCES

List of Other Attachments and References

ATTACHMENTS

Attachment 1 Monitoring Committee Summary of Assessment of Applicant for APEC Engineer Registration

Attachment 2 Example - Significant Engineering Work Application For APEC Engineer Registration

Attachment 3 Example - Career of Registered Engineer to be Recommended as APEC Engineer and Simulation for the Sampling of Significant Engineering Work

Attachment 4 Detailed Description of Two Years Experience in Responsible Charge of Significant Engineering Work

Attachment 5 Education Programs and Typical Management Skills

Appendix I - Attachment 1

MONITORING COMMITTEE SUMMARY OF ASSESSMENT OF APPLICANT FOR APEC ENGINEER REGISTRATION

Name of Applicant:

Qualification, and place and date obtained:

Registered Engineer Registration No.:

Registered Engineer Registration Date:

Registered Engineer's Discipline:

APEC Engineer Register Discipline:

Certified Compliance with APEC Engineer Criteria:

Completed an accredited or recognised engineering program, or assessed recognised equivalent	
Been assessed within their own economy as eligible for independent practice	
Gained a minimum of seven years practical experience since graduation	
Spent at least two years in responsible charge of significant engineering work	
Maintained their continuing professional development at a satisfactory level.	
Confirmed signature on statement of compliance with codes of ethics	

Signed

Officer delegated by
APEC Engineer Monitoring Committee

Appendix I - Attachment 2

EXAMPLE - SIGNIFICANT ENGINEERING WORK APPLICATION FOR APEC ENGINEER REGISTRATION (DRAFT)

(Reference: Tabled by Japan at Expert Advisory Group Meeting in Japan, July 1999)

Receipt No.:
 Qualification:
 Registered Engineer Registration No.:
 Registered Engineer Registration Date:
 Name of Registered Engineer's Discipline:
 Name of Applicant:
 Date of Birth:
 Address:
 Place of Employment:
 Company Name:
 Address:

I wish to be placed on the APEC Engineer Register and apply as described below in accordance with the provision that defines two years experience in responsible charge of significant engineering work.

1. Engineering Work Experience (Describe in a retrospective order, beginning with the most recent one.)

Work Number	Starting date/Ending date (months)	Name of organisation /position/ title	Name of work	Signature	Attestants Column	
					Relationship of signatory to the applicant	Tel/Fax

Note: The signatory shall be, in principle, the contractor who employed the applicant. Otherwise, the signatory shall be the representative of the organization under which the applicant executed his engineering work.



2. Detailed Description of Engineering Work (Describe, in detail, each work listed in the preceding page.)

Work Number	Position in Engineering Work	Contents of work (describe the contents and significance of the work, the applicant's role, and the degree of the applicant's responsibility using about 50 words.)

Note: Make a copy of this sheet when an extra sheet is needed.

I hereby swear that the above descriptions are true.

Date:

To APEC Engineer Monitoring Committee

Applicant's name:

Signature:

Appendix I - Attachment 3

EXAMPLE - CAREER OF REGISTERED ENGINEER TO BE RECOMMENDED AS APEC ENGINEER AND SIMULATION FOR THE SAMPLING OF SIGNIFICANT ENGINEERING WORK

(Reference: Tabled by Japan at Expert Advisory Group Meeting in Japan, July 1999)

Examples of Registered Engineer	Mr. A Civil Engineering Consultant	
Age/Date of Birth	31 yrs/September 22, 1967	
Technical Discipline Optional Subject	Civil Engineering Urban and Rural City Planning	
Final Academic Background	Graduated from Department of Engineering, Engineering Faculty, University, in 1990	
Age	Project Owner Classification	Project Name, Number of Months of Experience in Significant Engineering Work, and Summary
25	Ward	Arterial road network improvement planning
26	PWRI	Study of methods for planning and adjusting buildings and road facilities Study of relationship between street image and landscape elements
27	Ministry City	Establishment of urban landscape improvement plan (6 months) (Serving as the coordinator among the localities who mutually have complex interests, Mr. A worked out a plan.) Establishment of integrated basic plan for built-up urban area redevelopment (6months) (Serving as the coordinator between the municipalities and localities, Mr. A worked out an integrated basic plan for built-up urban area redevelopment.)
28	Public Works Research Institute (PWRI) Ministry	Preparation of guideline for streetscape development (draft) (3 months) (Mr. A worked out a draft guideline on the basis of a new concept, i.e., streetscape.) Study of Policy for Environmental improvement in Urban and Regional Areas (2 months) (Mr. A studied the policy. by reviewing medieval roads and buildings along such roads from a new angle.)
29	Ministry Prefecture	Preparation of an environmental improvement plan (4 months) (Mr. A worked out a plan to improve highways of olden times from a new viewpoint by taking into consideration natural, historical and cultural resources in a regional area.) Preparation of an integrated "Historical Road" improvement and utilization plan
30	City	Preparation of plan for development of areas surrounding a new interchange (4 months) (Serving as the coordinator between the authorities concerned and the localities and working in tie-up with both parties, Mr. A worked out a plan.)
Sum of Experiences in Responsible Charge of Significant Engineering Work (Shaded)		25 months

Note: The shaded portion indicates engineering work presumed to be described in an application as chief engineer's experiences equivalent to "experiences in responsible charge of significant engineering work".

Appendix I - Attachment 4

EXAMPLE OF DETAILED DESCRIPTION OF TWO YEARS EXPERIENCE IN RESPONSIBLE CHARGE OF SIGNIFICANT ENGINEERING WORK

(Reference: Tabled by Japan at Expert Advisory Group Meeting in Japan, July 1999)

Concerning “Experiences in the execution of engineering work under complicated conditions, or engineering work requiring new concepts, or engineering work involving a plurality of different disciplines”, the contents of more realistically presumed experiences are described below.

1. Experiences as chief or higher-position engineer (not in assisting engineer position) in charge of engineering work executed under complicated conditions

Complicated conditions

- The site is topologically complicated.
- Other structures are located close to the planned structures.
- There are strict safety and environmental requirements.
- The construction schedule is tight.
- There are many authorities concerned among which coordination is required.
- Public relations are difficult.

2. Experiences as chief or higher-position engineer (engineer not in assisting position) in charge of engineering work requiring new concepts.

- New concept
- New technologies
- New working methods
- New solutions
- New techniques

3. Experiences as chief or higher-position engineer (engineer not in assisting position) in charge of engineering work involving a plurality of different disciplines.

- Engineering work requiring expertise covering various disciplines;
- Engineering work in which a plurality of different disciplines is involved or engineering work requiring coordination among the engineers of different disciplines.

4. Experiences in engineering work equivalent to 1 through 3 above

Appendix I - Attachment 5

EDUCATION PROGRAMS AND TYPICAL MANAGEMENT SKILLS

The APEC Engineer recognises that the responsibilities undertaken by engineers often evolve during their career, reflecting an increasing emphasis on management roles as well as professional development based upon appropriate engineering education.

Education Programs

A balance of theoretical and applied content is expected in higher education programs to enable APEC Engineers to engage in an area of engineering practice upon graduation. The *Discussion Paper December 1997* proposed that all recognised programs cover the following principal and supplementary fields of study:

Principal Fields

- Mathematics & Physical Sciences
- Engineering Sciences
- Engineering Analysis and Design

Supplementary Fields

- Communication
- Management
- Ethics

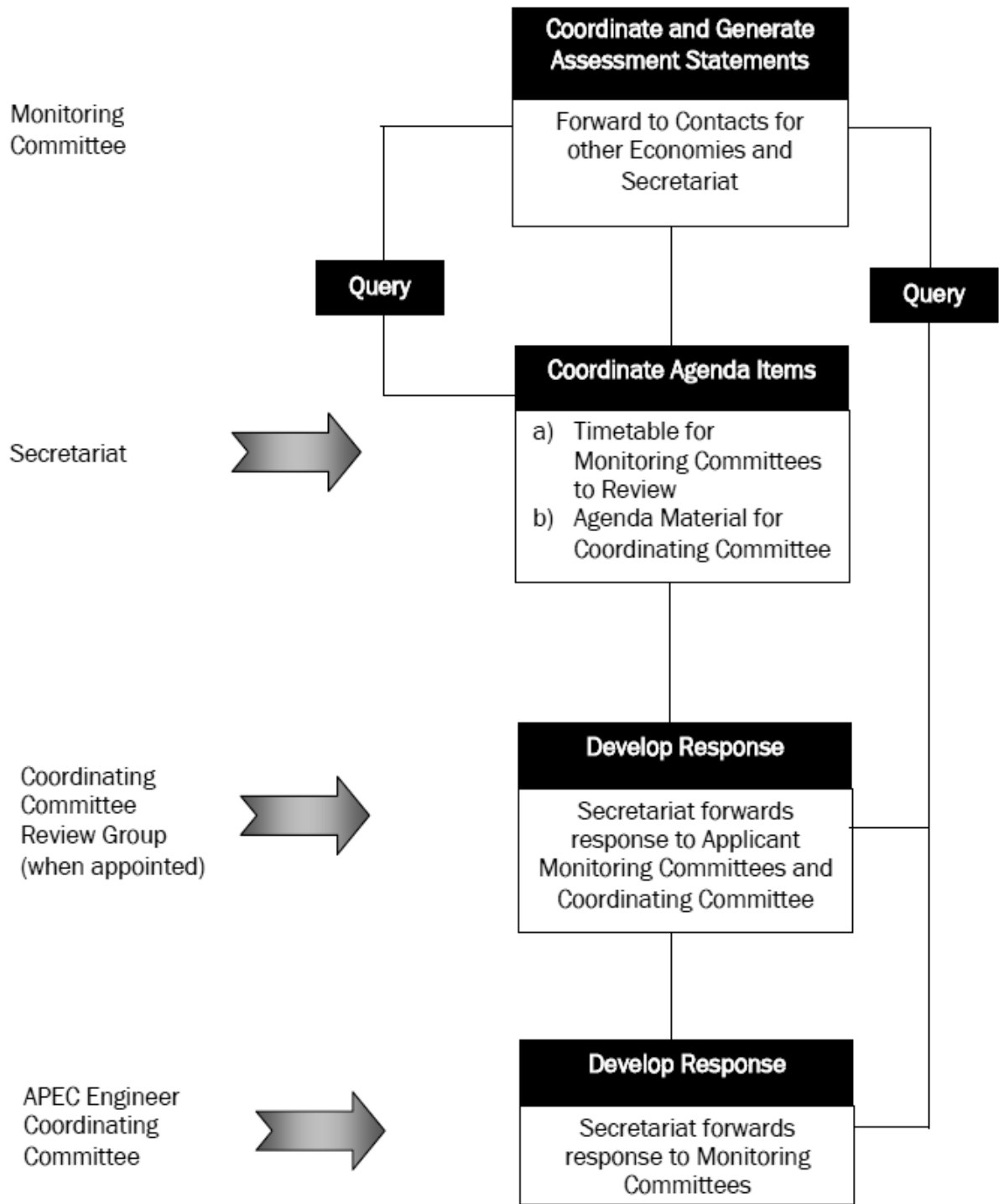
Typical Management Skills and Activities Applicable to Engineering Disciplines

Managerial skills and activities associated with experience in an engineering discipline and practiced in an engineering environment might typically include:

- General management
- Project management
- Quality assurance and total quality management
- Marketing of engineering products or services
- Financial or human resource management
- Design and delivery of training programs
- Policy development
- Regulation development

These activities will normally involve leadership, teamwork, oral and written communications, presentations, and interpersonal skills in the practice of all engineering disciplines.






Appendix II: Assessment Statement Flow Chart



1. General

- 1.1 These Rules have been developed and will be applied in accordance with the provisions of the APEC Engineer Framework, and are intended to be read in conjunction with those provisions. Should the requirements of the Rules and those of the Framework be found to be inconsistent, the requirements of the Framework will prevail.

2. Review Procedures

- 2.1 The assessment system applied by each authorised Monitoring Committee in controlling entry to the Register of APEC Engineers in the economy for which that Committee is responsible will be subject to monitoring by representatives of other authorised Monitoring Committees at intervals of not more than six years. Any authorised Monitoring Committee which effects a substantial change to its assessment processes is obliged to report such a change to the Secretariat and thus to provide the other authorised Monitoring Committees with an opportunity to request that the scheduled monitoring exercise be brought forward. The APEC Engineer Executive Committee will establish a schedule for the implementation of the associated reviews and reports, and authorised Monitoring Committees will make every reasonable effort to comply with that schedule.  
- 2.2 Upon receipt of a written request from the Secretariat, each authorised Monitoring Committee will nominate two representatives to take part in monitoring the assessment criteria and procedures of any other authorised Monitoring Committee, and undertake to meet the costs incurred by that representative. This clause shall not require any Monitoring Committee to provide more than one such representative in any calendar year.
- 2.3 Three representatives will be selected by the Executive Committee from the list of nominees to form the review team, which shall include at least one participant with experience in engineering education, and one from an industrial or professional background. The Executive Committee shall take all reasonable steps to ensure that none of the individuals selected through this process has had any substantial prior involvement in, or commitment to, the assessment system being reviewed. 
- 2.4 The Monitoring Committee subject to review will be advised by the Secretariat of the proposed composition of the review team, and invited to show cause why any member of the team is not suitable. In the event that such an objection is lodged, the Executive Committee shall take such steps as appear necessary and appropriate to resolve the situation and shall, if unable to achieve consensus, consult the official representatives of all authorised Monitoring Committees before confirming the membership of the review team. 
- 2.5 The Monitoring Committee subject to review will be given at least six months notice of the monitoring exercise, and will be invited to propose a suitable process, timetable and administrative support mechanism, for consideration by the review team.
- 2.6 The review will be carried out in two stages. The second stage will only be implemented in cases where the review team is not satisfied that reasonable compliance has been demonstrated at the end of the first stage. 

2.7 The first stage will be a paper (or desk top) review of a written portfolio of material supplied by the Monitoring Committee subject to review, consisting of evidence showing how the assessment statement is being adhered to, and up to twelve case studies of evidence portfolios, CPD records and assessor notes for representative (including at least two marginal or borderline) candidates. The review team may request further relevant information to satisfy itself that reasonable compliance has been demonstrated.



2.8 The second stage will comprise a review team visit. The Monitoring Committee under review shall meet travel, accommodation and approved incidental costs. Travel shall be economy class, except where flights exceed 8 hours or are scheduled overnight. Accommodation shall be fully serviced 3 star or 4 star. Local costs may be met directly. Other costs will be invoiced by the reviewers' Monitoring Committees, by negotiation (see 2.2 above).



2.9 The monitoring exercise will cover all aspects of the assessment process, including, where relevant, accreditation systems, examinations, graduate training schemes and professional interviews.



2.10 Discussions relating to a monitoring exercise undertaken in accordance with these Rules will be held in confidence. At the conclusion of each exercise, the review team will forward its report and recommendations to the Secretariat as soon as reasonably practicable. After confirming the report's factual accuracy with the subject Monitoring Committee, a copy of the report will be furnished to each authorised Monitoring Committee through the Secretariat.



2.11 The recommendations open to the review team will be as follows:

- (a) that the APEC Engineer Coordinating Committee extend the authorisation of the Monitoring Committee to operate a Register of APEC Engineers within their economy for a period of six years; or
- (b) that the APEC Engineer Coordinating Committee extend the authorisation of the Monitoring Committee to operate a Register of APEC Engineers within their economy for a period of not more than three years, subject to that Committee providing, within six months, a report that satisfies the APEC Engineer Coordinating Committee that all specific issues of concern identified by the review team have been or will be addressed; or
- (c) that the APEC Engineer Coordinating Committee suspend the authorisation of the Monitoring Committee to operate a Register of APEC Engineers within their economy, and that urgent and specific assistance be offered by the APEC Engineer Coordinating Committee to help the Monitoring Committee to address the deficiencies identified by the review team.

2.12 The recommendation will require support from two-thirds of the review team members in order to be submitted to the Coordinating Committee. Members who do not support the recommendation may write a minority report explaining why they do not agree with the selected recommendation and identifying the recommendation that they believe to be more appropriate. The minority report will be submitted with the review team report to the Secretariat for consideration by the Coordinating Committee.



2.13 Any resolution for suspension or termination of authorisation will require support from two-thirds of the authorised Monitoring Committees. No such suspension or termination shall, of itself, affect the status of any practitioner who has gained recognition through listing on the relevant Register of APEC Engineers.

3. Appeals

- 3.1 Where an adverse recommendation has been made, and accepted by the APEC Engineer Coordinating Committee, the Monitoring Committee in question may request that a separate review be conducted within six months by an appeal panel which is established in the same manner as, but has no membership in common with, the original review team. The appeal panel will determine the procedures and criteria under which it operates. The full costs of any such appeal will be borne by the Monitoring Committee concerned and the right of appeal may be exercised only once. The outcomes of any appeal will be binding on all parties.

4. Authorisation to Operate an APEC Engineer Register

- 4.1 Applications for authorisation to operate an APEC Engineer Register within an economy must conform to the principles set out in *The APEC Engineer Manual* and to such guidelines as may be approved from time to time by the APEC Engineer Coordinating Committee
- 4.2 In applying for authorisation to operate a Register of APEC Engineers, a Monitoring Committee will be required to prepare and submit to the APEC Engineer Coordinating Committee a statement of the proposed assessment criteria and procedures, which will be subject to comprehensive review under procedures similar to those used in monitoring the performance of existing authorised Monitoring Committees.
- 4.3 Following that review, authorisation will require support from two-thirds of the authorised Monitoring Committees.
- 4.4 Applicants to the Agreement will be expected to pay an application fee determined by the Governing Group to cover the cost of providing the services needed to facilitate the assessment of the application. Application fees shall be held by the provider of secretariat services for purposes deemed appropriate by the Governing Group.



5. General Meetings

- 5.1 A general meeting shall be held at least once every two years at a time and place and in a mode selected by the Coordinating Committee following appropriate consultation with the members. The Secretariat shall give the voting and non-voting members at least three months notice of a general meeting. Items for discussion at a general meeting should be submitted to the Secretariat at least two months prior to the meeting, and the agenda and business papers should normally be distributed to the members at least one month prior to the meeting.
- 5.2 A general meeting shall be convened within three months of receipt by the Executive Committee of a request submitted in writing over the signatures of three or more voting members of the Coordinating Committee. Any such request must indicate clearly the matters which are to be resolved at the general meeting, and the agenda of the meeting shall be restricted to consideration and resolution of those matters.
- 5.3 The time and place of any general meeting held in the face-to-face mode shall, so far as practicable, be such as to minimise the overall travel costs for participants. Where convenient, the meeting should follow or precede a major international conference or similar event.
- 5.4 Each Monitoring Committee will arrange for at least one representative to attend the general meeting. At the meeting, each Monitoring Committee will have one vote, and a simple majority will suffice for a decision on any matter, unless otherwise specified in *The APEC Engineer Manual* or in these Rules.
- 5.5 A written report must be submitted by each Member to the Secretariat at least three months



prior to a General Meeting.

- 5.6 No Monitoring Committee will be required to comply with a decision of a general meeting when compliance would require them to act in a manner which is contrary to their constitution, or, where relevant, beyond their statutory authority.
- 5.7 In advance of the IEM, the Governing Group will prepare a report on the performance of the provider of secretariat services against the requirements stated in Schedules 3 and 4 of the Multi Party Agreement, to the Members of the APEC Engineer agreement.



6. Voting

- 6.1 Monitoring Committees which are entitled to vote on any matter at a General Meeting of the Coordinating Committee may lodge that vote either through their designated representative attending that Meeting, or may authorise a proxy to vote on their behalf. Such authorisation may specify how the vote is to be exercised, or may give the proxy discretion to vote having regard to the debate at the meeting.

7. Changes to Rules

- 7.1 Any member of the Coordinating Committee may propose amendments to these Rules at any time. The adoption of such amendments will proceed only upon the basis of a positive vote by at least two-thirds of the Monitoring Committees which are entitled to vote at the next succeeding General Meeting, provided that the proposal in question has been received by the Secretariat at least three calendar months prior to the meeting in question, and disseminated to all Monitoring Committees at least two months prior to that meeting.

8. Chair

- 8.1 At the conclusion of each general meeting, a Monitoring Committee will be appointed by the members to provide the Chair of the Coordinating Committee. The Chair shall hold office for a period which will be determined by the members, but which will not exceed two consecutive terms, each of two years' duration.

9. Deputy Chair

- 9.1 At the conclusion of each general meeting, a Monitoring Committee will be appointed by the members to provide the Deputy Chair of the Coordinating Committee. No Monitoring Committee may provide the Deputy Chair for more than two consecutive terms, each of two years' duration.
- 9.2 The Chair and the Deputy Chair will normally come from different Monitoring Committees.



10. Secretariat

10.1 An organisation appointed to provide administrative and secretarial services to the Coordinating Committee generally as described in a Multi-Party Agreement, signed on behalf of the APEC Engineer Coordinating Committee by its Chair.



10.2 The Secretariat will maintain a record of the deliberations and decisions at each general meeting, will facilitate and record exchanges of information between the participants and will, with appropriate reference to the Executive Committee, advise participants and others as to the policies and procedures adopted by the APEC Engineer Coordinating Committee.



10.3 At the commencement of each financial year the provider of secretariat services shall invoice all Agreement Participants having financial obligations under this MPA for payment of their contribution. Payment shall be due within three months of the date of issue of the invoice.



11. Reports

11.1 The APEC Engineer Coordinating Committee will maintain close linkages with the APEC Human Resources Development Working Group with regular reporting.

PART

4

MUTUAL EXEMPTION FRAMEWORK GUIDELINES FOR REGULATORY AUTHORITIES

Preamble

Statutory bodies and governments are encouraged by the APEC Engineer Coordinating Committee to have regard to the following guidelines so that exemptions are granted consistent with a Mutual Exemption Framework, based upon the APEC Engineer Framework.

A mutual exemption framework, which would confer exemption, in whole or in part, upon APEC Engineers from further assessment by the statutory bodies that controlled the right to practise in each participating economy, can be concluded only with the involvement and consent of those statutory bodies and the relevant governments.

Only complete or partial exemption of APEC Engineers from the assessment mechanisms operating in the host jurisdiction is at issue, not exemption from the requirement to become licensed or registered in the economy concerned.

Issues to be Considered

The various conditions that must be satisfied after substantial equivalence has been recognised and before the right to independent practice could be granted have been identified as:

- technical issues specific to the host jurisdiction
- legal and practice issues specific to the host jurisdiction
- responsibility, accountability, and liability

Language

Given the nature of communication in engineering practice, the relationship between engineers and their clients, and the widespread use within and between APEC economies of English as a common language for exchanging technical and professional information, there should be no need to require that APEC Engineers demonstrate any specific measure of fluency in an official language of the host economy. The capacity of practitioners to attract commissions from clients for independent practice will in any case be governed by their ability to communicate effectively with such clients.

Specific Technical, Legal and Practice Issues

The extent to which any additional assessment would be required depends on the kind of practice being contemplated.

- *Practice within a Sponsoring Organisation*

Where an APEC Engineer seeks a license only in order to practise within a sponsoring organisation, or through a formal relationship with engineers already licensed for independent practice, the Coordinating Committee considers that few, if any, issues should arise.

- *Independent Practice*

Where an APEC Engineer seeks licensing, conferring the right to independent practice, the forms of assessment that might be applied could include:

- submission of practice statement, and/or
- formal examination and/or interview, and/or
- adaptation period (not exceeding a negotiated limit), and /or
- exemption for very experienced engineers.

Assessment

In general, while accepting that statutory authorities are responsible for protecting the health, safety and welfare of the community, the Coordinating Committee has a strong preference for adopting the least intrusive forms of assessment compatible with that responsibility. The objectives of any supplemental assessment mechanisms should be to provide the relevant authorities with a satisfactory degree of confidence that the practitioners concerned:

- understand the general principles behind applicable codes of practice;
- have demonstrated a capacity to apply such principles safely and efficiently; and
- are aware of the special requirements operating within the host jurisdiction.

There are, at present, significant variations in the mechanisms through which these principles are applied in different APEC economies. The following actions are recommended by the APEC Engineer Coordinating Committee as being likely to reduce unnecessary barriers from the point of view of those applying for rights to practise:

- Assessment relating to specific technical, legal or practice issues should be implemented only at the point when APEC Engineers actually propose to engage in the relevant forms of practice, rather than at the point where a general right to practise is conferred.
- Where supplemental assessment is considered necessary, requiring APEC Engineers to complete an adaptation period of sponsored practice within the host jurisdiction would be preferable to requiring them to undertake further formal assessment.
- Where such adaptation periods have been specified, their duration should not normally exceed 12 months, which would have to be negotiated among the economies. The Monitoring Committee authorised to establish and maintain the Register of APEC Engineers within the host jurisdiction might often be well placed to monitor and assess the outcomes of the adaptation periods.

Responsibility, Accountability and Liability

The APEC Engineer Coordinating Committee considers that APEC Engineers should be held individually accountable for their actions, both through requirements imposed by each registering body and through legal processes, some of which may need to be negotiated amongst the participating economies.

Implementation

Many projects developed within APEC are based upon voluntary participation, and this is the preferred approach for implementing the APEC Engineer Register and the related Mutual Exemption Framework. Interested member economies have participated in developing and establishing the APEC Engineer and now seek to relate it to a Mutual Exemption Framework. Any other APEC member economy has the right to be represented on the APEC Engineer Coordinating Committee once a Monitoring Committee has been established which is prepared to operate in compliance with the

APEC Engineer Framework and Rules and has the confidence of the relevant authorities within that economy. Such a Monitoring Committee may subsequently seek authorisation to establish and maintain an APEC Engineer Register.

The APEC Engineer Coordinating Committee recommends that a similar approach be adopted for the establishment of a Mutual Exemption Framework.

ANNEX 1 - LIST OF CHANGES TO DOCUMENT

The original version of *the APEC Engineer Manual* was published in November 2000. Since that time, three sets of changes have been incorporated into the document as listed below.



Changes resulting from the third meeting of the APEC Engineer Coordinating Committee, held in 2001 at Kuala Lumpur, Malaysia:

- Revised forward
- Part 1, Section 5, page 10 second last bullet added “(the emerging norm for continuing professional development programs in APEC economies is an average of 50 weighted hours per year of formal and informal training broadly related to the area of practice)”
- Part 1, Section 6, page 10 first paragraph, last sentence changed to “The APEC Engineer Coordinating Committee recommends that (i) relevant governments pursue this within the broader APEC framework and that (ii) negotiation of agreements be consistent with the General Agreement on Trade in Services (GATS) Article VII.”
- Part 1, Appendix II, added “3. A Statement describing how academic practitioners meet the APEC Engineer requirements.”
- Part 1, Appendix III, added “Information” and “Bioengineering” and to the list of engineering disciplines and changed “The nine specified engineering ...” to “The eleven specified engineering...”

In addition, various typos were corrected.

Changes resulting from the fourth meeting of the APEC Engineer Coordinating Committee, held in 2003 at Rotorua, New Zealand:



- Revised acknowledgements for Korea
- Revised forward
- Part 1, Section 2, second last paragraph, “Each practitioner included on the APEC Engineer Register shall...” changed to “Each practitioner included on the APEC Engineer Register may...”
- Part 1, Appendix III, first paragraph, “...the Monitoring Committee shall identity...” changed to “...the Monitoring Committee may identify...”
- Part 1, Appendix III, added “Aerospace”, “Building”, “Fire”, and “Petroleum” to the list of engineering disciplines and changed “The eleven specified engineering...” to “The fifteen specified engineering...”
- Part 3, Section 2.5, added paragraphs “The review will be carried out in two stages. The second stage will only be implemented in cases where the Monitoring Team is not satisfied that reasonable compliance has been demonstrated at the end of the first stage.

The first stage will be a paper (or desk top) review of a written portfolio of material supplied by the Monitoring Committee subject to review, consisting of evidence showing how the assessment statement is being adhered to, and case studies of evidence portfolios and assessor notes for marginal candidates.”

- Part 3, Section 2.7, added paragraph following part (c) “The recommendation will require support from two-thirds of the review team members in order to be submitted to the *Coordinating Committee*. Members who do not support the recommendation may write a minority report explaining why they do not agree with the selected recommendation and identifying the recommendation that they believe to be more appropriate. The minority report will be submitted with the review team report to the Secretariat for consideration by the *Coordinating Committee*.”

Changes resulting from the fifth meeting of the APEC Engineer Coordinating Committee, held in 2005 in Cyber Port, Hong Kong China.



- Revised definitions of license and registration (certification omitted)
- Transportation Engineering added to Part 1 Appendix III (list rearranged into alphabetical order)
- Review procedures updated and brought into line with generally accepted cost bearing protocols
- Manual amendments marked corresponding with Coordinating Committee Meeting number



Kuala Lumpur



Rotorua 2003



Hong Kong 2005

Changes resulting from sixth meeting of the APEC Engineer Coordinating Committee, held in 2007 in the Omni Shoreham Hotel, Washington DC.



- Appointment of an organisation to provide administrative and secretarial services and the identification of the Secretariat’s principal roles
- Election of Deputy Chair
- The instigation of the APEC Engineer Executive Committee, to be given responsibility for the conduct of Coordinating Committee business between biennial meetings in relation to review procedures, convening general meetings and any notice that a Monitoring Committee intends to surrender its authorisation.
- A new foreword from the Chairman.



Changes resulting from the seventh meeting of the APEC Engineer Coordinating Committee, held in 2009, at the ICC Kyoto, Japan.

- Adoption of the IEA Code of Conduct
- Reference made to the IEA Graduate attributes and professional competencies
- Changes made relating to the role of the MPA and the Governing Group of the MPA
- Changes to the application of fees



附錄4 工程技術員流動論壇憲章

ENGINEERING TECHNOLOGISTS MOBILITY FORUM

The International Recognition Agreement
For
Engineering Technologists

CONSTITUTION

As Approved
June 2005
Revised June 2007
Revised June 2009

DEFINITION

For the purposes of this Constitution, and any future Rules and Procedures made under this Constitution, engineering technology academic programs are defined as the programs through which practitioners normally satisfy the academic requirements for the engineering roles currently known amongst the initial signatories as:

- | | |
|--|-----------------|
| • Certified Engineering or Applied Science Technologist | Canada |
| • Associate Member of the Hong Kong Institution of Engineers | Hong Kong China |
| • Associate Engineer | Ireland |
| • Technical Member | New Zealand |
| • Professional Engineering Technologist | South Africa |
| • Incorporated Engineer | United Kingdom |

The term "engineering technologist" is used throughout this Constitution to refer to practitioners engaged in any or all of the above roles.

PREAMBLE

As a result of an agreement by the Sydney Accord signatories to explore mutual recognition for experienced engineering technologists, representatives of the engineering profession in each of the signatories to the Sydney Accord met in Sydney in November 1999 and Thornybush South Africa in June 2001.

The participants in these meetings, having exchanged information on, and made a preliminary assessment of, their respective processes, policies and procedures for granting recognition to experienced engineering technologists, concluded that these were sufficiently comparable to justify further examination. They agreed on the broad principles of a framework which might enable progress towards removing artificial barriers to the free movement and practice of engineering technologists amongst their countries. An agreement was reached on the principles and outline processes by which the substantial equivalence in competence of experienced engineering technologists could be established. This agreement is known as the Engineering Technologist Mobility Forum Memorandum of Understanding (ETMF MOU)

At a meeting held at Thornybush in South Africa in June 2001, the participants agreed to recommend that the organisations which they represented consider becoming signatories to a draft Agreement to establish and maintain an International Register of Engineering Technologists.

At a meeting in Hong Kong China in June 2005, it was further agreed to bring together the Memorandum of Understanding and the Agreement into one document. This Constitution is the result of that consolidation and, as far as possible, uses the same wording as the original documents.

The Constitution was approved at the General Meeting of the ETMF held at Hong Kong China on 16 June 2005 and Schedule 3 of the Constitution; the amended Rules for the International Register Coordinating Committee were approved by that Committee at its meeting held at Hong Kong China on 16 June 2005.

At the General Meeting of the ETMF held at Washington DC, USA on 21 June 2007, a new Schedule 4 was approved, and subsequent Schedules renumbered accordingly. The term 'Executive Committee' was introduced to clearly distinguish the Chair and Deputy Chair of the EMF from the newly appointed

Secretariat, and Clause 6 of the Constitution was expanded to include a formalised appointment procedure for the Chair and Deputy Chair.

At the General meeting of the ETMF held in Kyoto, Japan in 2009, the addition of new schedules 9, 10 and 11 were approved to provide clear instruction on the format of biennial reports, information required for review panel nominations and references made to graduate attributes and professional competencies.

Nothing in this Constitution is intended to limit the rights of any signatory organisation to conclude bilateral or multilateral agreements with any other organisations on different terms from those implied by the requirements for entry to the ETMF International Register of Engineering Technologists.

CONTENTS

	<u>Page</u>
Definition	2
Preamble	2
Engineering Technologists Mobility Forum	
1. Purpose of the ETMF	6
2. Objectives of the ETMF	6
3. Membership of the ETMF	7
4. Admission of New Members, Observers and Visitors	7
5. General and Special Meetings of the ETMF	8
6. Chair and Deputy Chair	8
7. Secretariat	10
8. Rules and/or Procedures for the ETMF	10
9. Changes to the Constitution	10
10 Annual Fees	10
11. Termination of the ETMF	10
International Register Committee	
12. International Register of Engineering Technologists	11
13 International Register Coordinating Committee	12
14. Membership of the Coordinating Committee	13
15. General and Special Meetings of the Coordinating Committee	14
16. Transfer from Provisional Member to Full Member	14
17. Monitoring Committees and Operation of the Register	16
18. Granting Rights of Practice and the Use of Multilateral and Bilateral Agreements	17
19. Chair and Deputy Chair	17
20. Rules and/or Procedures of the Coordinating Committee	17
21. Termination of the Coordinating Committee	17

SCHEDULES TO THE CONSTITUTION

- Schedule 1 Membership of the ETMF**
- Schedule 2 Guidelines on Criteria and Procedures**
- Schedule 3 International Register Coordinating Committee Rules**
- Schedule 4 Multilateral and Bilateral Agreements**
- Schedule 5 IntET Protocol**
- Schedule 6 Guidelines for Admission as Provisional and Full Members**
- Schedule 7 Mentoring Guidelines**
- Schedule 8 Review Process Guidelines**
- Schedule 9 Format for Biennial Report**
- Schedule 10 Requests for Review Panel Nominations**
- Schedule 11 Statement concerning graduate attributes and professional competencies**
- Schedule 12 Glossary of Key Terms**

1 PURPOSE OF THE ETMF

- 1.1** Through this Constitution, the signatories aim to facilitate cross-border practice by experienced practising engineering technologists by establishing a framework for their recognition based on confidence in the integrity of national assessment systems, secured through continuing mutual inspection and evaluation of those systems.
- 1.2** This Constitution therefore provides a framework within which the appropriate responsible body in an economy may, to the extent it considers appropriate, recognise the substantial equivalence in professional competence and standing of experienced engineering technologists licensed, registered, certified or otherwise deemed eligible for independent practice in another economy within which the signatory organisations have standing.
- 1.3** The signatories note that such registration will only be effective if the responsible bodies in the relevant economies accept the validity of the procedures and criteria through which substantial equivalence is established, and streamline the procedures for granting rights of practice in their economies to registrants applying through this mechanism.
- 1.4** The signatories will therefore use their best endeavours to ensure that responsible bodies in the economies within which they have standing use the International Register as a foundation upon which to streamline procedures to be adopted in dealing with applications by registrants based in the economies concerned.

2 OBJECTIVES OF THE ETMF

- 2.1** The members of the ETMF, as the representatives of the organisations in their respective countries or territories, agree that they will:
- (1)** develop, monitor, maintain and promote mutually acceptable standards and criteria for facilitating the cross-border mobility of experienced engineering technologists;
 - (2)** identify, and encourage the implementation of, best practice for the preparation and assessment of engineering technologists intending to practice internationally at the professional level;
 - (3)** continue mutual monitoring and information exchange by whatever means are considered most appropriate, including:
 - (a)** regular communication and sharing of information concerning assessment procedures, criteria, systems, manuals, publications and lists of recognised practitioners;
 - (b)** invitations to observe the operation of the procedures of other participants; and
 - (c)** invitations to observe meetings of any boards and/or commissions responsible for implementing key aspects of these procedures, and relevant meetings of the governing bodies of the participants;
 - (4)** establish and maintain a decentralised International Register of Engineering Technologists which would provide a readily accessible framework for the recognition of

experienced practising engineering technologists by the responsible bodies in each of the signatory 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 streamlined access by engineering technologists to licensing, registration or certification in economies other than that in which they first gained recognition;

- (5) seek to gain a greater understanding of the existing barriers to mobility and to develop and promote strategies to help governments and licensing authorities manage those barriers in an effective and non-discriminatory manner;
- (6) encourage the relevant governments and licensing authorities to adopt and implement mutual mobility procedures consistent with the standards and practices recommended by the signatories to such agreements as may be established by and through the ETMF.

3 MEMBERSHIP OF THE ETMF

3.1 Full Members are organisations responsible for registers of those qualified engineering technologists who have been assessed as eligible for independent practice within their own economy, and whose qualifications, as defined in clause 11, are based on academic achievement substantially equivalent to that of a graduate holding an engineering technology qualification accredited by an organisation holding membership of the Sydney Accord, and who have been granted interim or full authorization to maintain a section of the International Register.

3.2 Provisional Members are organisations with or in the course of developing registers of qualified engineering technologists in their own economies who intend to apply to be Full Members of the ETMF. Admission as a Provisional Member does not imply and shall not be used to imply that any part of the organisation's register meets the requirements for Full Membership.

3.3 Observers are representatives of other groups, which have an identity of interest with the ETMF in the mutual recognition of engineering technology qualifications.

3.4 Visitors are organisations interested in the work of the ETMF and who attend for one meeting.

4 ADMISSION OF NEW MEMBERS, OBSERVERS AND VISITORS

4.1 An organisation wishing to be a Provisional Member must be nominated by two Full Members in writing, and will be accepted only upon a positive vote by at least two-thirds of the Full Members at a General Meeting of the ETMF.

4.2 An organisation applying to be a Provisional Member will be required to pay an application fee to the Secretariat of the International Engineering Alliance (IEA) under the terms of the Multi Party Agreement (MPA) of which the ETMF is a signatory.

4.3 Provisional Members accept the same commitment to interaction and exchange as the other Members, and may be represented at all General and Special Meetings. Their representatives will have the right of audience and debate at such meetings, but will not be entitled to vote.

4.4 Visitors may be admitted with the agreement of the Executive Committee, as defined in clause 6.1.

4.5 No organisation, which is already represented on the ETMF by or through an existing Full Member or Provisional Member, is entitled to apply to be a Provisional Member.

5 GENERAL AND SPECIAL MEETINGS OF THE ETMF

- 5.1** A General Meeting of the ETMF shall be held at least once every two years at a time and place selected by the Executive Committee in conjunction with the Secretariat following appropriate consultation with the members and with the office bearers of other similar International Bodies. The Secretariat shall give the Full Members, Provisional Members and Observers, at least six months notice of a General Meeting.
- 5.2** Items for discussion at a General Meeting are to be submitted to the Executive Committee at least three months prior to the meeting, and the agenda and business papers are to be distributed to the members at least two months prior to the meeting. Amendments to the agenda and late submission of supporting documentation may be adopted by a simple majority of Full Members present at the meeting. Consideration and/or finalisation of matters placed on the agenda by the meeting as contemplated above can be suspended and held over for the agenda of the next meeting if a procedural motion to this effect is adopted by a simple majority of Full Members present at the meeting.
- 5.3** Each Full Member, Provisional Member or Observer will endeavour to arrange for at least one representative to attend each General Meeting.
- 5.4** A written report must be submitted by each Full and Provisional Member to the Secretariat at least three months prior to a General Meeting and shall provide information as specified in Schedule 9.
- 5.5** Each participating organisation will be responsible for its own costs.
- 5.6** A Special Meeting must be convened by the Secretariat within three months of receipt of a requisition submitted in writing and signed by three or more Members entitled to vote.

6 CHAIR AND DEPUTY CHAIR

- 6.1** The officer bearers of the ETMF and the International Register Coordinating Committee shall be the Chair and the Deputy Chair, who shall be referred to collectively as the Executive Committee, and who shall be elected from nominations made by Full Member organisations that have a vote on the International Register Coordinating Committee.
- 6.2** The officer bearers act for the ETMF and the International Register Coordinating Committee, and may not simultaneously represent or vote on behalf of any Full Member on any matter. For the avoidance of doubt, officer bearers are not included in the headcount of delegations from their Full Member organisation.
- 6.3** A person nominated must be affiliated with a Full Member organisation and have the support of that organisation.
- 6.4** The Chair and the Deputy Chair will normally come from different Full Member organisations.
- 6.5** Persons affiliated with the same Full Member as the incumbent would not normally be eligible for nomination to that position.
- 6.6** A person may hold office for no more than two terms, each term of two years (defined as the time between biennial general meetings) unless specifically agreed by a majority vote of those

Full Members present at a general meeting. A term is completed at the end of the general meeting at which an election is held.

- 6.7 The Deputy Chair shall undertake the duties of the Chair if the Chair is unavailable for any length of time, or has declared a conflict of interest on any matter, and has temporarily stood down from the Chair whilst that matter is considered.
- 6.8 In the event that the Chair is unable to complete his or her term for any reason, the Deputy Chair shall temporarily hold the position until the next general meeting. Such service shall not be counted against the term of that person in the role of Chair.
- 6.9 In the event that the Deputy Chair is unable to complete his or her term for any reason, the Chair shall decide whether the position may remain vacant (if the remaining part of the term is less than 180 days), or whether to call for nominations, and hold an election using the process for deciding matters under urgency. Service of a person elected under urgency shall not be counted against the term of that person in the role of Deputy Chair.
- 6.10 At least 120 days in advance of a general meeting, the secretariat will send all Full Member organisations the invitation to make nominations for Chair and Deputy Chair positions.
- 6.11 Nominations must be moved and seconded by two different Full Member organisations, and the nomination form signed by the nominee, nominator and seconder must be received by the secretariat prior to the general meeting. The secretariat will distribute the nominations to the Full Member organisations at the general meeting.
- 6.12 Voting will be held by secret ballot during a general meeting, and will be supervised by two independent scrutineers appointed by the general meeting.
- 6.13 In the event that there are more than two candidates and no candidate achieves more than 50% of the votes cast in the ballot, the lowest polling candidate will be eliminated and a further poll held. This process will be repeated as many times as is necessary. In the event of a tie in respect of eliminating a candidate the candidate to be eliminated will be established by the drawing of lots by the scrutineers. In the event of a tie on the last poll the Chair will exercise a casting vote.
- 6.14 If required, elections may be conducted urgently as follows:
 - a. The ballot papers must be distributed to all Full Members in writing
 - b. Each Full Member has 60 days to record its vote. Votes are to be provided directly to the secretariat.
 - c. The secretariat will issue reminders after 30 and 45 days to those Full Members who have not responded
 - d. For the avoidance of doubt, the Executive Committee may require any Full Member to provide a faxed signed confirmation of its vote to validate that vote.
 - e. The secretariat shall be responsible for counting the votes and arranging scrutineering by at least 2 independent persons.
 - f. The Chair must announce the result without undue delay, and the outcome will apply from the date of announcement
 - g. The matter is regarded as ratified by approval of the accuracy of documentation of the decision making process (as if that documentation was minutes of a meeting), by Full Members at the next general meeting of the Engineering Technologists Mobility Forum

7 SECRETARIAT

- 7.1** The operation of the ETMF and the International Register Coordinating Committee will be facilitated by a Secretariat.
- 7.2** The Secretariat will maintain a record of the deliberations and decisions at each General or Special Meeting of both the ETMF and the International Register Coordinating Committee, will facilitate and record exchanges of information between the participants, and will advise participants and others as to the policies and procedures adopted by the ETMF and its International Register Coordinating Committee.

8 RULES AND/OR PROCEDURES FOR THE ETMF

- 8.1** Appropriate Rules and/or Procedures may be established by the Full Members from time to time to ensure that the ETMF can operate in a satisfactory and expeditious manner. Adoption of, or amendment to, such Rules and/or Procedures will proceed only through a positive vote by at least two-thirds of the Members at a General Meeting of the ETMF.

9 CHANGES TO THE CONSTITUTION

- 9.1** Any Full Member may propose amendments to this Constitution. The adoption of such amendments will proceed only upon the basis of a positive vote by at least two-thirds of the Members at the next succeeding General Meeting of the ETMF, provided that the proposal in question has been received by the Executive Committee at least three months prior to the meeting in question, and disseminated to all Full Member organizations.

10. ANNUAL FEES

- 10.1** Full and Provisional Members are required to pay an annual fee as determined by the MPA to which the EMF is a participating agreement.
- 10.2** In the event of non-payment of the annual fee, in terms of the MPA, the Full or Provisional Member will lose their membership of the EMF.
- 10.3** Reinstatement will require the former Full or Provisional Member to meet requirements laid down by the Executive Committee in conjunction with the Governing Group of the MPA and may include:
- (1) Payment of outstanding fees,
 - (2) Payment of an application fee, and
 - (3) Completion of the full process as for a new applicant for provisional membership.

11 TERMINATION OF THE ETMF

- 11.1** The ETMF will remain operative for so long as it is acceptable and desirable to the Members.
- 11.2** Any Full Member or Provisional Member wishing to withdraw from the ETMF must give at least twelve months' notice to the Executive Committee and Secretariat.

INTERNATIONAL REGISTER COORDINATING COMMITTEE

12 INTERNATIONAL REGISTER OF ENGINEERING TECHNOLOGISTS

12.1 The Full Members agree to create and maintain a decentralised International Register of Engineering Technologists and to grant entry to that Register only to those practitioners who can demonstrate that they have:

- (1)** reached an overall level of academic achievement at the point of entry to the register in question which is substantially equivalent to that of a graduate holding an engineering technology degree/diploma/certificate accredited by an organisation holding full membership of and acting in accordance with the terms of the Sydney Accord; and
- (2)** gained a minimum of seven years practical experience since graduation; and
- (3)** spent at least two years in responsible charge of significant engineering work; and
- (4)** been assessed within their own economy as eligible for independent practice; and are registered, licensed or certified as engineering technologists within the relevant economy; and
- (5)** maintained their continuing professional development at a satisfactory level.

12.2 The conclusion reached in (1) above does not imply that acceptable academic achievement may be demonstrated only within the context of an accredited engineering technology program, and the signatories will therefore seek, as a matter of urgency, within the framework of the ETMF, to develop verification mechanisms that can be applied to assess the substantial equivalence of academic achievement through the alternative professional development routes that exist, or that are being established, in most jurisdictions:

12.2.1 Within an economy in which engineering technologists would not normally be expected to hold an engineering technology degree/diploma/certificate accredited under the Sydney Accord, practitioners may, in the context of the total assessment package, be considered to have met this standard by the point of entry to the Register when they have:

- (a)** completed a structured programme of engineering education which is accredited by a signatory organisation or by an agency authorised by the signatory organisation, which is independent of the education provider, and/or
- (b)** completed 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, or;
- (c)** satisfactorily completed an assessment and have been certified/registered/licensed to practise as an Engineering Technologist in the Applicants own economy through competency or outcomes based assessment or any other verification mechanism, within the framework of the ETMF, that can be applied to assess the substantial equivalence of academic achievement through an alternative professional development route.

- 12.3 In developing such verification mechanisms, particular attention should be given to identifying or establishing competency-based or outcomes-based standards to facilitate the recognition of substantial equivalence.
- 12.4 Assessment Statements from signatories that include a competency or outcome based assessment as an alternative route of this kind may be considered for approval by the International Coordinating Committee.
- 12.5 Applicants must agree to be bound by the codes of professional conduct established and enforced by each economy within which they are practising. Such codes normally require that practitioners place the health, safety and welfare of the community above their responsibilities to clients and colleagues, practise only within their fields of competence, and advise their clients if and when additional professional assistance becomes necessary to implement a programme or project.
- 12.6 Applicants must further agree to be held individually accountable for their actions, both through requirements imposed by the licensing, registering or certifying authorities in the economies in which they practise and through legal processes. By applying for registration, applicants authorise the signatory organisations to exchange such personal and other data as may be necessary to ensure that the application of a sanction or penalty in any economy in which an engineering technologist is registered or licensed to practice will be taken into account in deciding upon their continued designation and will be appropriately recorded in the Register.

13 INTERNATIONAL REGISTER COORDINATING COMMITTEE

- 13.1 To ensure consistency in application of the agreed criteria, ultimate authority for entering persons on the International Register will be the responsibility of a committee of the Engineering Technologists Mobility Forum called the International Register Coordinating Committee.
- 13.2 The primary objectives of the International Register Coordinating Committee, herein after referred to as the Coordinating Committee, will be to facilitate the creation and operation of an authoritative decentralised International Register of Engineering Technologists, and to promote acceptance by the bodies responsible for licensing or registration in each economy where signatories have standing that the technical and professional competence of practitioners whose names appear on the International Register is in accordance with the provisions of section 11 above.
- 13.3 To that end, the Coordinating Committee will:
- (1) ensure that the registration procedures and criteria adopted by each signatory organisation as set out in their approved Assessment Statement are subject to a review and report at intervals of not more than six years;
 - (2) establish a schedule for the implementation of such reviews and reports, and select review teams from persons nominated by the Full Member organisations, taking all reasonable steps to ensure that none of the individuals selected through this process has had any substantial prior involvement in or commitment to the registration system being reviewed;

- (3) support work being undertaken by Full Members and Provisional Members to develop objective mechanisms that would allow all signatories to determine with confidence that any proposed alternative criteria meet the benchmarks specified in this Constitution;
- (4) continue mutual monitoring and information exchange by whatever means are considered most appropriate, including regular communication and sharing of information concerning assessment procedures, criteria, systems, manuals, and publications; and
- (5) facilitate the exchange of information on proven cases of unethical or incompetent practice by registered engineering technologists, and the universal imposition of any sanctions imposed on such persons by the organisation responsible for the section of the Register upon which their names appear.

13.4 Each Full Member organisation will undertake to:

- (1) ensure that all practitioners entered by them on the International Register comply fully with the requirements specified in this Constitution, and that they have demonstrated that compliance through the Assessment Statements submitted to and approved by the International Register Coordinating Committee; and
- (2) give all reasonable assistance and advice to bodies which are responsible for registering, licensing or certifying engineering technologists in any economy in which the signatory has standing and which seek to reach agreement upon mutual recognition or exemption with the corresponding authorities in other economies; and
- (3) monitor, and report regularly to the Coordinating Committee on, the extent to which persons entered upon the International Register have been successful in gaining rights to practice in economies within which the organisation has standing, and on any issues or concerns which may arise in relation to such practice.

14 MEMBERSHIP OF THE COORDINATING COMMITTEE

14.1 The Coordinating Committee shall comprise:

- The Chair of the ETMF
- The Deputy Chair of the ETMF
- One voting representative from each authorised Monitoring Committee
- One voting representative from each Monitoring Committee holding interim authorisation
- One non-voting representative from each Provisional Member

14.2 Only Full Members of the ETMF may nominate a representative to serve on the Coordinating Committee.

14.3 The Coordinating Committee will invite each Provisional Member of the ETMF to nominate a non-voting representative to serve on the Coordinating Committee. These representatives will not be entitled to vote on any issue, or participate in the debate on the initial or continued authorisation of a Full Member organisation to establish and maintain a section of the International Register of Engineering Technologists.

14.4 Following any resolution for suspension or termination of authorisation, the representative of the Monitoring Committee concerned will remain a member of the Coordinating Committee but will revert to being a non-voting representative and a Provisional Member of the ETMF.

15 GENERAL AND SPECIAL MEETINGS OF THE COORDINATING COMMITTEE

15.1 General Meetings of the International Register Coordinating Committee will be held at least once every two years in conjunction with the meeting of the ETMF.

15.2 Special meetings must be convened by the Secretariat within three months of receipt of a request submitted in writing and signed by three or more Full Members.

15.3 Each signatory organisation will be responsible for its own costs.

15.4 The operation of the International Register Coordinating Committee will be facilitated by the Secretariat of the ETMF.

16 TRANSFER FROM PROVISIONAL MEMBER TO FULL MEMBER

16.1 After admission as a Provisional Member of the ETMF, the organization concerned, as soon as reasonably practicable, shall submit an Assessment Statement to the Executive Committee, summarising the procedures and criteria which are proposed to be applied within their economy. The procedures and criteria shall be compatible with the fundamental principles of this Constitution, and shall have regard to the Guidelines appearing in the Schedule 2 to this Constitution.

16.2 Where a Provisional Member is not the authority granting rights of practice in its economy, an agreement between the Provisional Member and the authority concerned should be provided which clarifies conditions under which persons on the International Register of Engineering Technologists from other economies will be accommodated.

16.3 The Assessment Statement must ensure that the criteria required by the ETMF International Register Coordinating Committee are met. These requirements are as follows:

(i) The Full Members agree to create and maintain a decentralised International Register of Engineering Technologists and to grant entry to that Register only to those practitioners who can demonstrate that they have:

- reached an overall level of academic achievement at the point of entry to the register in question which is substantially equivalent to that of a graduate holding an engineering technology degree/diploma/certificate accredited by an organisation holding full membership of, and acting in accordance with the terms of, the Sydney Accord

- Within an economy in which engineering technologists would not normally be expected to hold an engineering technology degree/diploma/certificate accredited under the Sydney Accord, practitioners may, in the context of the total assessment package, be considered to have met this standard by the point of entry to the Register when they have:

- (a) completed a structured programme of engineering education which is accredited by a signatory organisation or by an agency authorised by the signatory organisation, which is independent of the education provider, and/or
 - (b) completed 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, or;
 - (c) satisfactorily completed an assessment and have been certified/registered/licensed to practise as an Engineering Technologist in the Applicants own economy through competency or outcomes based assessment or any other verification mechanism, within the framework of the ETMF, that can be applied to assess the substantial equivalence of academic achievement through an alternative professional development route.
- gained a minimum of seven years practical experience since graduation; and
 - spent at least two years in responsible charge of significant engineering work; and
 - been assessed within their own economy as eligible for independent practice; and
 - maintained their continuing professional development at a satisfactory level.
- (ii) Applicants must agree to be bound by the codes of professional conduct established and enforced by each economy within which they are practicing. Such codes normally require that practitioners place the health, safety and welfare of the community above their responsibilities to clients and colleagues, practice only within their fields of competence, and advise their clients if and when additional professional assistance becomes necessary to implement a programme or project.
 - (iii) Applicants must further agree to be held individually accountable for their actions, both through requirements imposed by the licensing or registering authorities in the economies in which they practice and through legal processes. By applying for registration, applicants authorize the Full Member organisations to exchange such personal and other data as may be necessary to ensure that the application of a sanction or penalty in any economy in which an engineering technologist is registered or licensed to practice will be taken into account in deciding upon their continued designation and will be appropriately recorded in the Register.

16.4 The Assessment Statement will be reviewed by the Coordinating Committee in accordance with the approved Rules and may, in order to ensure mutual consistency and mutual confidence, be either:

- (1) approved as submitted; or
- (2) with the consent of the proponent, approved with amendments; or
- (3) referred back for further consideration, with suggestions for improvement.

16.5 Where an Assessment Statement has been approved by at least two-thirds of the voting members at a General Meeting of the Coordinating Committee, the Provisional Member organization concerned will be given an interim authorisation to develop and maintain a section of the International Register within their economy in accordance with that Assessment Statement and will transfer to Full Membership of the ETMF.

16.6 The continued authorisation of each such Full Member organization will thereafter be subject to periodic review by the Coordinating Committee in accordance with the approved Rules, with an initial review being undertaken as soon as reasonably practicable following approval by the Coordinating Committee.

17 MONITORING COMMITTEES AND OPERATION OF THE REGISTER

17.1 The Coordinating Committee may authorise any Full Member organisation to operate a Register of certified/registered/licensed engineering technologists who meet such requirements as have been determined by that signatory organisation and endorsed by at least two-thirds of the other signatory organisation entitled to vote at General and Special Meetings of the Coordinating Committee.

17.2 Each Full Member organisation, which has an approved Assessment Statement, will appoint a Monitoring Committee to undertake to develop and maintain a section of the International Register open to practitioners whose qualifications and technical and professional expertise have been assessed within economies within which that Full Member organisation has standing.

17.3 Each Monitoring Committee will be responsible for certifying the qualifications and experience of individual engineering technologists seeking entry to the International Register, whether or not the assessment of such candidates is delegated to an associated body.

17.4 Each authorised signatory organisation must provide timely and accurate information on the status of any person claiming to be listed on the section of the International Register for which they are responsible to any person or organisation having a legitimate need for access to such information, to exchange relevant data with the other authorised signatory organisation, and, in relation to economies within which they have standing, provide a single point of contact on matters concerning practitioners listed on the International Register.

17.5 Full Member organisations must make every reasonable effort to comply with the review schedule to be established by the Executive Committee. Any authorised Full Member organisation which effects a substantial change to its registration criteria, policies or procedures must report that change to the Executive Committee as soon as reasonably practicable, giving other authorised signatory organisations the opportunity to require that the scheduled review and report be brought forward.

18 GRANTING RIGHTS OF PRACTICE AND THE USE OF MULTILATERAL AND BILATERAL AGREEMENTS

18.1 Where a Full Member organisation has streamlined procedures in place in its economy to grant rights of practice to persons who are on the International Register of Engineering Technologists from another Full Member economy, and that other Full Member economy does not reciprocate with similar streamlined procedures, the Full Member organisation concerned may, if it so chooses, not grant rights of practice to applicants from that other Full Member economy. 18.2 Where a Full Member organisation is not the authority granting rights of practice in its economy, and as a result is not able to establish streamlined procedures for granting of rights of practice to persons on the International Register of Engineering Technologists from other Full Member economies, the Full Member organisation should endeavour to enter multilateral agreements or conclude bilateral agreements, providing for such streamlined procedures to be adopted on a reciprocal basis with other Full Member organisations. The

foundation for such multilateral or bilateral agreements should be consistent with the standards and practices adopted by the ETMF and its International Register. A Guideline for such agreements is provided in Schedule 4 to this Constitution.

18.3 Any bilateral agreements concluded and an updated statement of the credit/benefit available to registrants from other jurisdictions should be reported to the Executive Committee for noting at the next General Meeting.

19 CHAIR AND DEPUTY CHAIR

19.1 The Chair and Deputy Chair for the Coordinating Committee shall be as defined in clause 6.

20 RULES AND/OR PROCEDURES OF THE COORDINATING COMMITTEE

20.1 Appropriate rules will be established by the Coordinating Committee from time to time to ensure the satisfactory and expeditious operation of the International Register. Adoption of, or amendment to, such Rules will proceed only through a positive vote at a General Meeting of the Coordinating Committee by at least two-thirds of the Monitoring Committees which are entitled to vote.

21 TERMINATION OF THE COORDINATING COMMITTEE

21.1 The Coordinating Committee will continue to function as long as at least half of the Members of the Engineering Technologists Mobility Forum wish to operate sections of the International Register. Any signatory organisation wishing to cease operation of a section of the Register must give at least twelve months' notice to the Executive Committee and Secretariat. No such cessation of operation will, of itself, affect registration or licensing granted prior to that cessation by responsible authorities to practitioners whose names appear on the terminated section of the Register.

SCHEDULE 1

MEMBERSHIP OF THE ETMF

FULL MEMBERS

The Canadian Council of Technicians and Technologists
The Engineering Council of South Africa
The Engineering Council UK
The Institution of Engineers of Ireland
The Institution of Professional Engineers, New Zealand
The Hong Kong Institution of Engineers

SCHEDULE 2

GUIDELINES ON CRITERIA AND PROCEDURES

The purpose of these guidelines is to assist Members of the Engineering Technologists Mobility Forum to develop an Assessment Statement for submission to the Coordinating Committee. That statement should explain how the eligibility of practitioners to appear on the International Register is intended to be determined. Note that the fundamental criteria set out in the Agreement are to be considered as a package, some of them being relatively objective in nature, while others require the exercise of significant professional judgment, particularly in relation to exceptional applicants. The following guidelines represent the consensus view of the signatories on appropriate benchmarks for each of the following criteria contemplated in the Agreement:

1. Applicants must have -

- (1) *reached an overall level of academic achievement at the point of entry to the register in question which is substantially equivalent to that of a graduate holding an engineering technology degree/diploma/certificate accredited by an organisation holding full membership of the Sydney Accord*

Within an economy in which engineering technologists would not normally be expected to hold an engineering technology degree/diploma/certificate accredited under the Sydney Accord, practitioners may, in the context of the total assessment package, be considered to have met this standard by the point of entry to the Register when they have:

- (a) completed a structured programme of engineering education which is accredited by a signatory organisation or by an agency authorised by the signatory organisation, which is independent of the education provider, and/or
- (b) completed 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, or;
- (c) satisfactorily completed an assessment and have been certified/registered/licensed to practise as an Engineering Technologist in the Applicants own economy through competency or outcomes based assessment or any other verification mechanism, within the framework of the ETMF, that can be applied to assess the substantial equivalence of academic achievement through an alternative professional development route.
- (2) *gained a minimum of seven years practical experience since graduation*

The exact definition of practical experience will be at the discretion of the signatory organisation concerned, but the work in question should be clearly relevant to the fields of engineering technology in which the applicant claims expertise. During this initial period, the applicant should participate in a range of roles and activities appropriate to these fields of engineering technology. However, their roles while they are in responsible charge of significant engineering work may be more focused.

(3) *spent at least two years in responsible charge of significant engineering work*

The definition of significant engineering work will vary between disciplines. In general, the work should have required the exercise of independent engineering judgment, the projects or programs concerned should have been substantial in duration, cost, and/or complexity, and the applicant should have been personally accountable for their success or failure. Applicant may be taken to have been in responsible charge of significant engineering work when they have:

(a) planned, designed, coordinated and executed a small project; or

(b) undertaken part of a larger project based on an understanding of the whole project; or

(c) undertaken novel, complex and/or multi-disciplinary work.

Note in particular that the specified period of two years may, and often will, have been completed within the course of the seven years practical experience since graduation.

(4) *been assessed within their own economy as eligible for independent practice*

Such an assessment may be conducted by the signatory organisation, by a professional association recognised by the signatory, or by a competent authority responsible for registration, licensing or certification of engineering technologists within the relevant economy.

(5) *maintained their continuing professional development at a satisfactory level*

The nature and extent of the required participation in continuing professional development, and the manner in which compliance is audited, will remain at the discretion of the signatory organisation concerned, but should reflect emerging norms for such participation by engineering technologists and should be appropriate to the discipline or disciplines in which the practitioner claims expertise.

2. Applicants admitted through a process of competency and/or outcomes-based assessment

Applicants for the International Register through this alternative route would, in addition to the time specification described above and maintaining CPD, have been assessed within their own economy as eligible for independent practice through a competency and/or outcomes based assessment acceptable to the signatories that confirms that they have developed practical skills and professional maturity not less than those implied by seven years practical experience since graduation and two years in responsible charge of significant engineering work.

A competency/outcomes-based assessment is one through which potential registrants present evidence of their professional competence against criteria set by the signatory organisation.

The range and level of the competencies required, the form of the evidence to be presented and the criteria for assessment will vary for each economy but would normally be expected to include competence to –

- (1) apply engineering technology knowledge to the analysis and solution of engineering problems; and**
- (2) provide technical and supervisory managerial leadership; and**
- (3) use effective communication and interpersonal skills.**

SCHEDULE 3

INTERNATIONAL REGISTER COORDINATING COMMITTEE

RULES

1. GENERAL

- 1.1** These Rules have been developed and will be applied in accordance with the provisions of the Constitution to establish an International Register of Engineering Technologists, and are intended to be read in conjunction with those provisions. Should the requirements of the Rules and those of the Constitution be found to be inconsistent, the requirements of the Constitution will prevail.

2. MONITORING COMMITTEES

- 2.1** The responsible committee in each signatory organisation responsible for undertaking the tasks given in Clause 4.2 of these Rules, and as indicated in Clause 8 of the Constitution, shall be named the Monitoring Committee for that signatory.
- 2.2** An authorised Monitoring Committee is one that has been authorised by the International Register Coordinating Committee to operate a section of the International Register, and their representative on the Coordinating Committee shall have a vote. Such Monitoring Committee shall be deemed to be voting members of the International Register Coordinating Committee.

3. AUTHORISATION TO OPERATE A SECTION OF THE INTERNATIONAL REGISTER

- 3.1** Applications for authorisation to operate a section of the International Register within an economy must conform to the principles set out in the ETMF Constitution and to such guidelines as may be approved from time to time by the International Register Coordinating Committee.
- 3.2** In applying for authorisation to operate a section of the International Register, a Monitoring Committee will be required to prepare and submit to the ETMF International Register Coordinating Committee a statement of the proposed assessment criteria and procedures.
- 3.3** Authorisation, which shall be interim until the initial review, will require support from two-thirds of the voting members of the Coordinating Committee.

4. REVIEW PROCEDURES

- 4.1** The assessment system applied by each authorised Monitoring Committee in controlling entry to a section of the International Register in the economy for which that Committee is responsible will be subject to monitoring by representatives of other authorised Monitoring Committees at intervals of not more than six years. The Executive Committee will establish a schedule for the implementation of the associated reviews and reports,

and authorised Monitoring Committees will make every reasonable effort to comply with that schedule.

- 4.2 Any authorised Monitoring Committee which effects a substantial change to its assessment processes is obliged to report such a change to the Executive Committee and thus to provide the other authorised Monitoring Committees with an opportunity to request that the scheduled review be brought forward.
- 4.3 Upon receipt of a written request, each authorised Monitoring Committee (See Schedule 10) will nominate two representatives to take part in reviewing the assessment criteria and procedures of any other Monitoring Committee. This clause shall not require any authorised Monitoring Committee to provide more than one such representative in any calendar year.
- 4.4 Three representatives will be selected by the Executive Committee from the list of nominees to form the review team which shall include at least one participant with experience in engineering technology education, and one from an industrial or professional background. The Executive Committee shall take all reasonable steps to ensure that none of the individuals selected through this process has had any substantial prior involvement in, or commitment to, the assessment system being reviewed.
- 4.5 The Monitoring Committee subject to review will be advised by the Secretariat of the proposed composition of the review team, and be invited to show cause why any member of the team is not suitable. In the event that such an objection is lodged, the Secretariat shall take such steps as appear necessary and appropriate to resolve the situation and shall, if unable to achieve consensus, consult the official representatives of all authorised Monitoring Committees before confirming the membership of the review team.
- 4.6 The Monitoring Committee subject to review will be given at least six months' notice of the review, and will be invited to propose suitable arrangements, timetable and administrative support mechanism, for consideration by the review team. The monitoring exercise will cover all aspects of the assessment process, including, where relevant, accreditation systems, examinations, training schemes, continuing professional development and professional interviews, and will include an assessment visit, unless upon consideration of the documents submitted, the review team decides that a visit is not necessary.
- 4.7 The costs of the review visit shall be borne by the Monitoring Committee under review. Such costs shall be limited to the payment of travel, accommodation and incidental expenses. The costs shall be reimbursed by the Monitoring Committee after the completion of the review visit. Travel shall be economy class except where flights exceed 8 hours duration or an overnight flight is required. Accommodation shall be fully serviced 3 star or 4 star.
- 4.8 Discussions relating to a review undertaken in accordance with these Rules will be held in confidence. At the conclusion of each review, the review team will forward its report and recommendations to the Executive Committee as soon as reasonably practicable. A

copy of the report will be furnished to each authorised Monitoring Committee through the secretariat.

4.9 The recommendations open to the review team will be as follows:

- (a) that the International Register Coordinating Committee remove the interim authorisation status of the Monitoring Committee if such status pertains and extend the authorisation of the Monitoring Committee to operate a section of the International Register within their economy for a period of six years; or
- (b) that the International Register Coordinating Committee extend the present authorisation of the Monitoring Committee to operate a section of the International Register within their economy for a period of not more than three years, subject to that Committee providing, within six months, a report that satisfies the International Register Coordinating Committee that all specific issues of concern identified by the review team have been or will be addressed; or
- (c) that the International Register Coordinating Committee suspend the authorisation of the Monitoring Committee to operate a section of the International Register within their economy, and that urgent and specific assistance be offered by the International Register Coordinating Committee to help the Monitoring Committee to address the deficiencies identified by the review team.

4.10 Any resolution for suspension or termination of authorisation will require support from two-thirds of the authorised Monitoring Committees. No such suspension or termination shall, of itself, affect the recognition status of any practitioner who has already gained recognition in another economy.

5. APPEALS

5.1 Where an adverse recommendation has been made, and accepted by the International Register Coordinating Committee, the Monitoring Committee in question may request that a separate review be conducted within six months by an appeal panel which is established in the same manner as, but has no membership in common with, the original review team. The appeal panel will determine the procedures and criteria under which it operates. The full costs of any such appeal will be borne by the Monitoring Committee concerned and the right of appeal may be exercised only once. The outcomes of any appeal will be binding on all parties.

6. GENERAL AND SPECIAL MEETINGS

6.1 A general meeting shall be held at least once every two years at a time and place and in a mode selected by the Coordinating Committee following appropriate consultation with the members. The Secretariat shall give the voting and non-voting members at least six months' notice of a general meeting. Items for discussion at a general meeting are to be submitted to the Executive Committee at least three months prior to the meeting, and the agenda and business papers are to be distributed to the members at least two months prior to the meeting. Amendments to the agenda and late submission of

supporting documentation may be adopted by a simple majority of voting members present at the meeting.

- 6.2 Consideration and/or finalisation of matters placed on the agenda by the meeting as contemplated in clause 6.1 can be suspended and held over for the agenda of the next meeting if a procedural motion to this effect is adopted by a simple majority of *voting* members present at the meeting.
- 6.3 A special meeting shall be convened within three months of receipt by the Secretariat of a request submitted in writing by the signatures of three or more voting members of the Coordinating Committee. Any such request must indicate clearly the matters which are to be resolved at the special meeting, and the agenda of the meeting shall be restricted to consideration and resolution of those matters.
- 6.4 Special meetings may take place in Email, tele-conferencing or video-conferencing format unless the Secretariat receives a specific request from a majority of voting members, at least two months in advance, that a face-to-face meeting be convened.
- 6.5 The time and place of any general or special meeting held in the face-to-face mode shall, so far as practicable, be such as to minimise the overall travel costs for participants. Where convenient, the meeting should follow or precede a meeting of the ETMF, an International Engineering Meeting or similar event.
- 6.6 Each Monitoring Committee will endeavour to arrange for at least one representative to attend each general meeting or special meeting, failing which the authorised proxy procedure described in Clause 7.2 should be employed.
- 6.7 No Monitoring Committee will be required to comply with a decision of a general or special meeting when compliance would require them to act in a manner which is contrary to their constitution, or, where relevant, beyond their statutory authority.

7. VOTING

- 7.1 Following the inaugural meeting, voting members at general or special meetings shall be representatives of authorised Monitoring Committees and of Monitoring Committees holding interim authorisation. Each voting member shall have one vote.
- 7.2 Monitoring Committees which are entitled to vote on any matter at a General Meeting of the Coordinating Committee may lodge that vote either through their designated representative attending that Meeting, or may authorise a proxy to vote on their behalf. Such authorisation may specify how the vote is to be exercised, or may give the proxy discretion to vote having regard to the debate at the meeting.
- 7.3 Unless otherwise specified in the Constitution or in these Rules, a simple majority will suffice to carry a motion. In the event of there being no majority of votes for or against a motion, the motion is not carried and the status quo prevails.

8. CHANGES TO RULES

8.1 Any member of the Coordinating Committee may propose amendments to these Rules at any time. The adoption of such amendments will proceed only upon the basis of a positive vote by at least two-thirds of the Monitoring Committees which are entitled to vote at the next succeeding General Meeting, provided that the proposal in question has been received by the Executive Committee at least three calendar months prior to the meeting in question, and disseminated to all Monitoring Committees at least two months prior to that meeting.

SCHEDULE 4

ENGINEERING TECHNOLOGIST MOBILITY FORUM

MULTILATERAL OR BILATERAL AGREEMENTS

AS ADDENDUMS TO THE ETMF AGREEMENT

- 1. The ETMF Constitution sets up a mutual recognition framework primarily through the creation of the International Register of Engineering Technologists, which does not bind registration and/or licensing bodies in an economy, where they are not the signatory to the ETMF agreement for that economy.**
- 2. In terms of the Constitution, however, each Full Member organisation has undertaken to use its best endeavours to ensure that the further assessment of International Engineering Technologists is minimised.**
- 3. Where an economy has a highly regulated system for licensing engineering technologists for obtaining rights of practice, and the monitoring committee of the Full Member organisation does not include persons from regulatory bodies who grant the rights of practice, cross boarder mobility will need to be facilitated by specific bilateral agreements that commit the regulatory authorities to streamlined processes.**
- 4. The acceptance of bilateral agreements within the ETMF framework provides the Full Member organisations concerned with the opportunity to engage meaningfully with their regulatory authorities in order to simplify arrangements for International Engineering Technologists wishing to provide services in their jurisdiction.**
- 5. Bilateral agreements should be kept as simple as possible, based on the agreement of substantial equivalence of the ETMF Constitution, stating only the criteria and processes required for their mutual exemption framework. A bilateral agreement should provide some certainty about requirements for an engineering technologist from one economy who wishes to practice in the other.**
- 6. A bilateral agreement should be a brief public document and based on the ETMF Constitution.. To be valid it must be signed by representatives of the Full Member organisations and the regulatory authorities in both economies that are party to it.**
- 7. Once a bilateral agreement has been concluded, it should be reported to the Coordinating Committee at its next meeting by lodging a copy of it with the Executive Committee prior to the meeting. The Secretariat will be required to keep a copy of such agreement for record purposes.**
- 8. An example of the potential form of a bilateral agreement follows, which could form the basis of preparing an agreement appropriate to the specific economies involved.**

**ETMF INTERNATIONAL REGISTER OF ENGINEERING TECHNOLOGISTS
ADDITIONAL AGREEMENT
for the
Mutual Recognition of Certified/Licensed/Registered Engineering Technologists
Between
Jurisdictions of [first country] and [second country]
To Facilitate Mobility of International Engineering Technologists**

1. Participants

1.1. The [first signatory organisation]

1.2. The [second signatory organisation]

Both [organisations] are Full Members of the Engineering Technologists Mobility Forum (hereafter ETMF)

1.3. The [authority/authorities responsible for certification/registration/licensure or Participating Authority/Authorities]

2. Definitions

“Accredited Engineering Technology Programme” means an engineering technology education programme accredited by [first signatory’s accreditation body] or by [second signatory’s accreditation body]. Both accreditation bodies maintain [international accreditation agreement, e.g. Sydney Accord] accreditation standards.

“[Acronym or business name of first signatory]” means the [first signatory organisation].

“[Acronym or business name of second signatory]” means the [second signatory organisation].

“Home Economy” means the jurisdiction holding the Section of the International Register of Engineering Technologists] on which an engineering technologist is registered.

“Host Economy” means the jurisdiction to which an engineering technologist applies for reciprocal recognition under the terms of this Agreement.

“Participating Authority” means an authority responsible for registration/licensure in one of the signatory country jurisdictions, where this is not the ETMF Full Member signatory to this Agreement

“Certification”, “Licensing” and “Registration” mean the process by which a person obtains the right to independent practice within the Home Economy.

“Certified/Licensed/Registered Engineering Technologist” means an engineering technologist who has been granted certification/licensure/registration status and has been admitted according to detailed assessments carried out by the responsible authority in the Home Economy.

“Substantially Equivalent Academic Qualification” means an academic qualification which is not an Accredited Engineering Technology Programme, but which has been assessed and recognised as substantially equivalent to such by the relevant responsible authority in the Home Economy.

“Sydney Accord” means the agreement between certain engineering technology accreditation bodies that:

- Recognises the substantial equivalence of accreditation systems of signatory organisations and the engineering technology education programs accredited by them; and
- Establishes that graduates of programs accredited by the accreditation organisations of each member economy have acquired the knowledge and understanding required to practise engineering technology at the entry level.

3. Basis and Purpose of this Agreement

3.1. This Agreement supersedes all other such mutual recognition agreements between [first signatory organisation], [second signatory organisation] and the [Participating Authority/Authorities].

3.2. This Agreement is made within the wider framework of the ETMF to which both the first two signatories are Full Members.

3.3. This Agreement is intended to permit the mutual recognition of [Certified/Licensed/Registered] engineering technologists from a Home Economy in the Host Economy. This Agreement sets out the standards, criteria, procedures and measures which:

- (a) are based on the general provisions within the ETMF Constitution
- (b) are based on objective and transparent criteria, such as competence and the ability to provide a service;
- (c) are not more burdensome than necessary to ensure the quality of a service; and
- (d) do not constitute a disguised restriction on the cross-border provision of a service.

3.4. Provisions under this Agreement apply to engineering technologists on the Section of the International Register of Engineering Technologists in the Home Economy.

3.5. Nothing in this Agreement shall apply to individual practice or malpractice disputes.

4. Scope of this Agreement

4.1. This Agreement covers engineering technologists registered on a Section of the International Register of Engineering Technologists in a signatory jurisdiction.

4.2. It is intended that there be no discrimination based on place of origin or place of education.

4.3. This Agreement is intended for permanent or temporary [Certification/Licensure/Registration], depending on the needs of the individual applicant and any legislative limitations in each Jurisdiction.

5. Mutual Recognition Provisions and Limitations

5.1. [Insert first signatory organisation's provisions and limitations under this Agreement]

5.2. [Insert second signatory organisation's provisions and limitations under this Agreement]

5.3. [Insert Participating Authority's/Authorities' provisions and limitations under this Agreement]

6. Additional Participating Authorities

6.1 Additional Participating Authorities may be added to this Agreement if agreed by the Signatories to this Agreement by means of an addendum to the Agreement, the signing of which binds that additional Participating Authority to the terms of this Agreement.

7. Discipline and Enforcement

7.1. Both Full Member signatories and all Participating Authorities will extend cooperation to the extent possible on enforcement and disciplinary issues.

7.2. An application for Certification/Licensure/Registration made under this Agreement must include disclosure of any sanctions related to the practice of engineering in other Jurisdictions. Information regarding sanctions may be considered in the Certification/Licensure/Registration process.

7.3. An application for Certification/Licensure/Registration made under this Agreement must include the applicant's written permission to distribute and exchange information regarding sanctions between all involved Jurisdictions. Failure to fully disclose or provide any of the required information may be the basis for denial of the application, or for sanctions, including revocation of the Certificate/Licence/Registration.

7.4. Each Jurisdiction will take appropriate disciplinary action if an engineering technologist violates the standards of that Jurisdiction. Each Jurisdiction shall promptly report sanctions to all other Jurisdictions in which it knows the engineering technologists is a Certified/Licensed/Registered Engineering Technologist.

7.5. A Jurisdiction shall take appropriate action, subject to its own rules of procedure and the principle of due process, related to a sanction that is reported to them by another Jurisdiction. Each Home Economy shall provide for review of cross-border sanctions.

8. Immigration and Visa Issues

8.1. Recognition and any certification/licensure/registration granted under this Agreement in a Host Economy does not preclude the need to conform to applicable immigration and visa requirements of the Host Economy.

9. Information Exchange

9.1. The signatories will notify each other and provide copies of any major changes in policy, criteria, procedures and programmes that might affect this Agreement.

9.2. The signatories will provide an annual accounting to each other of all applicants who have applied pursuant to the terms of this Agreement

10. Dispute Resolution

10.1 The signatories to this Agreement shall at all times endeavour to agree on the interpretation and application of this Agreement and shall make every endeavour through co-operation and consultation to arrive at a mutually satisfactory resolution of any matter that might affect its operation.

10.2 Any signatory to this Agreement may request in writing clarification with another signatory regarding any actual or proposed measure or any other matter that it considers might affect the operation or interpretation of this Agreement.

11. Term of Agreement

11.1. This Agreement will come into effect on execution.

11.2. The signatories shall, at least every five (5) years, review and update the status of implementation and the effectiveness of the Agreement, and to recommend changes.

11.3. A signatory or any Participating Authority may withdraw from the provisions of this Agreement six (6) months after it provides written notice of withdrawal to the other signatories and Participating Authorities. If a Participating Authority withdraws, the Agreement shall remain in force for the remaining Participating Authorities.

11.4. If at any time all Participating Authorities have withdrawn from the agreement, this agreement will automatically terminate.

11.5. This Agreement will automatically terminate if both signatories are not members in good standing of the ETMF.

11.6. Any registrant/licensee approved at the time of termination of the Agreement will be treated as if this Agreement is still in existence.

EXECUTED [insert date]

[First signatory organisation name]

[Second signatory organisation name]

(name)
(position)

(name)
(position)

(name)
(position)

(name)
(position)

[Participating Authority]

[Participating Authority]

(name)
(position)

(name)
(position)

SCHEDULE 5

IntET Protocol

The Title

Following the IEM Workshops in London, England, June 2004, and the agreement of EMF Full Members to award the post-nominal title “IntPE (jurisdiction)”, being the abbreviation for “International Professional Engineer (jurisdiction)”, the ETMF Chair and Secretariat agreed that the ETMF should proceed along similar lines.

At the London Workshops ETMF Members agreed that Engineering Technologist remained the most appropriate designation to use in relation to the Forum and the development of an International Register of Engineering Technologists. It is thus proposed that “IntET (jurisdiction)”, being the abbreviation for “International Engineering Technologist (jurisdiction)” be considered by the Forum.

6 Full Members have confirmed the acceptability of the IntET (jurisdiction) title. Of these, the following formats have been stated:

Canada	IntET (Canada)
Hong Kong-China	IntET (Hong Kong)
Ireland	IntET (Irl)
New Zealand	IntET (NZ)
South Africa	IntET (SA)
United Kingdom	IntET (UK)

The protocol for use of *IntET*

It is proposed that the following protocol, modelled after the ETMF IntET (jurisdiction) protocol, be adopted for usage of the IntET (jurisdiction) title:

- All International Registrants shall be advised, upon confirmation of the registration, of their entitlement to use the IntET (jurisdiction) title;
- Where there are legal impediments to the use of the title within the registering country jurisdiction, the registrant should be advised accordingly, and should also be advised that the title may be used in other jurisdictions;
- The registering authority of the receiving country, when an International Registrant seeks such registration, should advise the applicant of any legal (or other) reasons that would disallow usage of the title;
- For the above two points, the registrant/applicant should be advised that any restriction applies to use of the title on business cards, stationery, and email signatures. Such notification should reduce any potential non-permitted usage of the title in such a jurisdiction;
- The individual International Registrant accepts full responsibility for compliance with the law of any foreign country in using the post-nominal title. The ETMF takes no responsibility for the irregular use of the post-nominal title by a registrant under circumstances contrary to the advice/information given to him under this protocol.

SCHEDULE 6

Engineering Technologists Mobility Forum

Guidelines for Admission

As

Provisional and Full Members

1. Introduction

- 1.1** The ETMF has grown out of the Sydney Accord following an agreement by the Sydney Accord signatories to explore mutual recognition for experienced engineering technologists.
- 1.2** With the potential for growth and development of the ETMF it is recognised that the process by which an interested organisation applies for Provisional Membership of the ETMF needs greater formalisation and clarification.
- 1.3** This document, which should be read in conjunction with the 'ETMF Mentoring Guidelines', provides such information and guidance.
- 1.4** Both the application process and the type of documentation that the applicant organisation needs to provide to the Executive Committee for consideration at a General Meeting of the ETMF is explained here.
- 1.5** Applications for Provisional Membership and Full Membership are considered at General Meetings of the ETMF, which are normally held biennially. The granting of Provisional Membership of the ETMF precedes application for Full Membership. Once an applicant organisation has been granted Provisional Membership it can begin working towards satisfying the requirements for Full Membership, with the assistance of Mentors.
- 1.6** Applications for Full Membership may be considered at the General Meeting of the ETMF following the General Meeting at which Provisional Membership was granted. It should be noted that there is no prescribed time period for progression to Full Member and a period of greater than two years may be required to satisfy Full Member requirements depending of the stage of development of the Provisional Member's accreditation and registration systems.

2. Definitions

2.1 Provisional Member

- 2.1.1** Provisional Members are organisations with or in the course of developing registers of professionally qualified engineering technologists in their own economies who intend to apply to be Full Members of the ETMF.
- 2.1.2** Admission as a Provisional Member does not imply and shall not be used to imply that any part of the organisation's register meets the requirements for Full Membership.

2.2 Full Member

2.2.1 Full Members are organisations responsible for registers of those professionally qualified engineering technologists who have been assessed as eligible for independent practice within their own economy, and whose qualifications are based on academic achievement substantially equivalent to that of a graduate holding an engineering degree accredited by an organisation holding membership of the Sydney Accord, and who have been granted interim or full authorization to maintain a section of the International Register.

3. Application for Provisional Member Status

3.1 An organisation wishing to be a Provisional Member must be nominated by two Full Members in writing, and will be accepted only upon a positive vote by at least two-thirds of the Full Members at a General Meeting of the ETMF.

3.2 Applicant organisations are required to gain the support of two Full Members of the ETMF, who can attest to the organisation's systems and the standard of its engineering technologists. The supporting Full Members need to be able to provide attestation based on their first hand knowledge of these systems. This may require the supporting Full Members visiting the applicant jurisdiction to observe the processes and procedures of the system of accreditation and registration. All costs incurred as a direct result of such visits are met by the applicant organisation.

3.3 The documentation that is required to be prepared by the applicant organisation should reflect the content of the Assessment Statement required before Full Membership can be granted. Guidelines for Assessment Statements are set out in Schedule 2 of the ETMF Constitution. The content must include details of the domestic accreditation system, including the stage of development at the time of application.

3.4 The applicant must provide a statement in its application which indicates its procedures for granting rights of practice in its economy to persons on the International Register of Engineering Technologists from other economies.

3.5 The application including all documentation and letter of support for the application shall be submitted to the Executive Committee at least 3 months prior to the next General Meeting.

3.6 The applicant organisation is required to give a presentation based on its application documentation to the General Meeting of the ETMF at which its application will be considered.

4. Application Submission Requirements

4.1 The business language of the ETMF is English. All documentation and communications must be in English.

4.2 The application must be submitted to the Executive Committee in electronic format at least 3 months prior to the next General Meeting of the ETMF.

5. Progression from Provisional Member to Full Member

- 5.1** The transfer of a Provisional Member to Full Member may involve mentoring by Full Members to assist in all aspects of the transfer process, including the drafting of an Assessment Statement. Provisional Members are required to provide an Assessment Statement that sets out its current procedures and criteria for domestic registration and also its proposed procedures and criteria for admitting individual applicants to its section of the International Register of Engineering Technologists.
- 5.2** After admission as a Provisional Member of the ETMF, the organization concerned, as soon as reasonably practicable, shall submit an Assessment Statement to the Coordinating Committee, summarising the procedures and criteria which are proposed to be applied within their economy. The procedures and criteria shall be compatible with the fundamental principles of this Constitution, and shall have regard to the Guidelines appearing in the Schedule 2 to this Constitution.
- 5.3** Where a Provisional Member is not the authority granting rights of practice in its economy, an agreement between the Provisional Member and the authority concerned should be provided which clarifies conditions under which persons on the International Register of Engineering Technologists from other economies will be accommodated.
- 5.4** The Assessment Statement must ensure that the criteria required by the ETMF International Register Coordinating Committee are met. These requirements are as follows, as taken from the ETMF Constitution:

Clause 12.1:

The Full Members agree to create and maintain a decentralised International Register of Engineering Technologists and to grant entry to that Register only to those practitioners who can demonstrate that they have:

- (1)** reached an overall level of academic achievement at the point of entry to the register in question which is substantially equivalent to that of a graduate holding an engineering technology degree/diploma/certificate accredited by an organisation holding full membership of and acting in accordance with the terms of the Sydney Accord; and
- (2)** gained a minimum of seven years practical experience since graduation; and
- (3)** spent at least two years in responsible charge of significant engineering work; and
- (4)** been assessed within their own economy as eligible for independent practice; and are registered, licensed or certified as engineering technologists within the relevant economy; and
- (5)** maintained their continuing professional development at a satisfactory level.

Clause 12.2:

The conclusion reached in (1) above does not imply that acceptable academic achievement may be demonstrated only within the context of an accredited engineering technology program, and the signatories will therefore seek, as a matter of urgency, within

the framework of the ETMF, to develop verification mechanisms that can be applied to assess the substantial equivalence of academic achievement through the alternative professional development routes that exist, or that are being established, in most jurisdictions:

12.2.1 Within an economy in which engineering technologists would not normally be expected to hold an engineering technology degree/diploma/certificate accredited under the Sydney Accord, practitioners may, in the context of the total assessment package, be considered to have met this standard by the point of entry to the Register when they have:

- (a) completed a structured programme of engineering education which is accredited by a signatory organisation or by an agency authorised by the signatory organisation, which is independent of the education provider, and/or
- (b) completed 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, or;
- (c) satisfactorily completed an assessment and have been certified/registered/licensed to practise as an Engineering Technologist in the Applicants own economy through competency or outcomes based assessment or any other verification mechanism, within the framework of the ETMF, that can be applied to assess the substantial equivalence of academic achievement through an alternative professional development route.

Clause 12.5:

Applicants must agree to be bound by the codes of professional conduct established and enforced by each economy within which they are practising. Such codes normally require that practitioners place the health, safety and welfare of the community above their responsibilities to clients and colleagues, practise only within their fields of competence, and advise their clients if and when additional professional assistance becomes necessary to implement a programme or project.

Clause 12.6:

Applicants must further agree to be held individually accountable for their actions, both through requirements imposed by the licensing, registering or certifying authorities in the economies in which they practise and through legal processes. By applying for registration, applicants authorise the signatory organisations to exchange such personal and other data as may be necessary to ensure that the application of a sanction or penalty in any economy in which an engineering technologist is registered or licensed to practice will be taken into account in deciding upon their continued designation and will be appropriately recorded in the Register.

Clause 16.2:

Where a Provisional Member is not the authority granting rights of practice in its economy, an agreement between the Provisional Member and the authority concerned should be provided which clarifies conditions under which persons on the International Register of Engineering Technologists from other economies will be accommodated.

Clause 16.3:

The Assessment Statement must ensure that the criteria required by the ETMF International Register Coordinating Committee are met. These requirements are as follows:

- (i) The Full Members agree to create and maintain a decentralised International Register of Engineering Technologists and to grant entry to that Register only to those practitioners who can demonstrate that they have:
 - reached an overall level of academic achievement at the point of entry to the register in question which is substantially equivalent to that of a graduate holding an engineering technology degree/diploma/certificate accredited by an organisation holding full membership of, and acting in accordance with the terms of, the Sydney Accord
 - Within an economy in which engineering technologists would not normally be expected to hold an engineering technology degree/diploma/certificate accredited under the Sydney Accord, practitioners may, in the context of the total assessment package, be considered to have met this standard by the point of entry to the Register when they have:
 - (a) completed a structured programme of engineering education which is accredited by a signatory organisation or by an agency authorised by the signatory organisation, which is independent of the education provider, and/or
 - (b) completed 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, or;
 - (c) satisfactorily completed an assessment and have been certified/registered/licensed to practise as an Engineering Technologist in the Applicants own economy through competency or outcomes based assessment or any other verification mechanism, within the framework of the ETMF, that can be applied to assess the substantial equivalence of academic achievement through an alternative professional development route.
 - gained a minimum of seven years practical experience since graduation; and

- spent at least two years in responsible charge of significant engineering work; and
 - been assessed within their own economy as eligible for independent practice; and
 - maintained their continuing professional development at a satisfactory level.
- (ii) Applicants must agree to be bound by the codes of professional conduct established and enforced by each economy within which they are practicing. Such codes normally require that practitioners place the health, safety and welfare of the community above their responsibilities to clients and colleagues, practice only within their fields of competence, and advise their clients if and when additional professional assistance becomes necessary to implement a programme or project.
- (iii) Applicants must further agree to be held individually accountable for their actions, both through requirements imposed by the licensing or registering authorities in the economies in which they practice and through legal processes. By applying for registration, applicants authorize the Full Member organisations to exchange such personal and other data as may be necessary to ensure that the application of a sanction or penalty in any economy in which an engineering technologist is registered or licensed to practice will be taken into account in deciding upon their continued designation and will be appropriately recorded in the Register.

Clause 16.4:

The Assessment Statement will be reviewed by the Coordinating Committee in accordance with the approved Rules and may, in order to ensure mutual consistency and mutual confidence, be either:

- (1) approved as submitted; or
- (2) with the consent of the proponent, approved with amendments; or
- (3) referred back for further consideration, with suggestions for improvement.

Clause 16.5:

Where an Assessment Statement has been approved by at least two-thirds of the voting members at a General Meeting of the Coordinating Committee, the Provisional Member organization concerned will be given an interim authorisation to develop and maintain a section of the International Register within their economy in accordance with that Assessment Statement and will transfer to Full Membership of the ETMF.

Clause 16.6:

The continued authorisation of each such Full Member organization will thereafter be subject to periodic review by the Coordinating Committee in accordance with the approved Rules, with an initial review being undertaken as soon as reasonably practicable following approval by the Coordinating Committee.

SCHEDULE 7

Engineering Technologists Mobility Forum

Mentoring Guidelines

1. Introduction

- 1.1 The ETMF has grown out of the Sydney Accord following an agreement by the Sydney Accord signatories to explore mutual recognition for experienced engineering technologists.
- 1.2 With the potential for growth and development of the ETMF it is recognised that the process by which an interested organisation applies for Provisional Membership of the ETMF needs greater formalisation and clarification.
- 1.3 An organisation wishing to be a Provisional Member must be nominated by two Full Members in writing who can attest to the organisation's systems and the standard of its engineering technologists. The nominating Full Members need to be able to provide attestation based on their first hand knowledge of these systems.
- 1.4 A Provisional Member applying for Full Member status of the ETMF will benefit from guidance provided by Full Members to assist development of the processes and procedures needed to satisfy the ETMF Full Member requirements.
- 1.5 It is, therefore, recognised that a structured system of mentoring is appropriate for both organisations applying for Provisional Member and for Provisional Members applying for Full Membership of the ETMF. This document provides mentoring guidelines for the ETMF.

2. Definition of Terms

2.1 Mentoring

- 2.2 Mentoring is a process by which mentors provide support and guidance to an engineering professional licensing or registration body that has jurisdictional approval to apply for Provisional or Full Member status of the ETMF. The mentoring role will focus on providing advice and guidance on the policies and procedures and educational and registration standards of the mentee so that the mentee is given every opportunity, on application, to gain Provisional or Full Member status of the ETMF.

2.3 Mentor

- 2.4 Within these guidelines the term 'mentor' will refer to the Full Members of the ETMF that provide structured mentoring to the mentee.

2.5 Mentee

- 2.6 Within these guidelines the term 'mentee' will refer to the jurisdiction being mentored which is committed to gaining Provisional or Full Member status of the ETMF.

3. Principles

- 3.1 Mentoring is not compulsory but is recommended because of the benefits it can bring to the mentee.
- 3.2 The decision to participate in the mentoring process is left to each jurisdiction.
- 3.3 Mentors may be appointed by the Executive Committee, with the agreement of the appointee mentors, or may be appointed following directly agreement with the mentee. Where the mentor is appointed by the Executive Committee cognisance shall be taken of the geographical closeness of the mentor and mentee jurisdictions. Where the mentor is appointed through direct agreement with the mentee, the mentee organisation shall notify the Executive Committee of the mentors.
- 3.4 Mentoring relationships are established for a set purpose and for a set period of time. The purpose and time period should be agreed between the mentee and the mentor at the beginning of the mentoring relationship.
- 3.5 Mentoring is not a requirement for Provisional or Full Membership of the ETMF and participation in a mentoring relationship will not guarantee a mentee success in its application for Provisional or Full Membership of the ETMF.
- 3.6 ETMF mentors are acting on behalf of the ETMF and for the benefit of the mentee. They must perform their mentoring duties in a professional and timely manner and must keep a record of the mentoring activities that have been undertaken.
- 3.7 The advice provided by the mentor is confidential to the mentee and the mentor.
- 3.8 Any information by way of reports covering the advice of the mentor etc. may only be released to 3rd parties, including the Secretariat, with the permission of the mentee.

4. Costs

- 4.1 Any direct costs associated with ETMF mentoring shall be met by the mentee and will be agreed between the mentee and the mentor.

5. Nominators and Reviewers

- 5.1 The Full Members that have acted as mentors are likely, but are not required, to be nominators for an application of Provisional or Full Member status.
- 5.2 The review team that will undertake the first review of the mentee following successful granting of Full Member status shall be composed of representatives of Full Member organisations that did not act as Mentors. This is to ensure that there is no conflict of interest on the part of the review team.

SCHEDULE 8

ETMF Review Process

**International Recognition Agreement for Engineering Technologists
Review Process**

Guidelines

June 2005

Guidelines for the ETMF International Register of Engineering Technologists Review Process

Contents

Review Process Guidelines

Review Report

**Appendix A - Extract from ETMF International Register of Engineering Technologists Constitution
Schedule 3**

Review Process Guidelines

1. General

- 1.1** The review of the assessment system applied by each authorised Monitoring Committee shall be conducted under the general provisions of the International Register Review Procedures as detailed in the ETMF International Register of Engineering Technologists (IRET) Constitution Schedule 3 (Appendix A to this document), and in adherence to the following guidance.
- 1.2** The Review Programme will be prepared by the Secretariat under the guidance of the Executive Committee and approved by the Full Members at each biennial meeting for the upcoming cycle.
- 1.3** Each Full Member shall be subjected to review every six years
- 1.4** Any Full Member organisation which effects a substantial change to its assessment processes is obliged to report such a change to the Executive Committee and thus to provide the other Full Members with an opportunity to request that the scheduled review be brought forward.
- 1.5** Discussions relating to a review undertaken in accordance with these Rules will be held in confidence. At the conclusion of each review, the review team will forward its report and recommendations to the Executive Committee as soon as reasonably practicable. A copy of the report will be furnished to each authorised Monitoring Committee through the Secretariat.
- 1.6** The Executive Committee will select Review Team members from the list of nominees provided by Full Members for acceptance by the Monitoring Committee subject to review.
- 1.7** The Monitoring Committee subject to review shall be given at least six months' notice and will be invited to propose suitable arrangements, timetable and administrative support for consideration by the review team.
- 1.8** All documentation shall be provided in English.

2. Prior to the Review Visit

- 2.1** It is recognised that the format of the review will have minor differences due to the registration procedures of each Monitoring Committee but the following information shall be provided to the Secretariat prior to the review visit for distribution to the review team.
 - a.** The current ETMF Assessment Statement;
 - b.** A brief description of the domestic registration process;
 - c.** Details of the registration process for the IntET;
 - d.** A representative sample of IntET applications, submitted under the following criteria:
 - 12 applications should be submitted, where possible this should include 2 borderline admitted cases. (This number can be adjusted by the Executive Committee in conjunction with the Review Team if the register under review is very small);
 - CPD portfolios shall be included for all applications;
 - All applications shall have suitable annotation to prevent personal identification

2.2 The Review Team may request further relevant information to enable a comprehensive review of documentation to be made prior to the Review Visit. Any such request should be made through the Secretariat and not directly to the Monitoring Committee being reviewed.

2.3 Where reviews have already been conducted with the Monitoring Committee under review, the Secretariat will provide a copy of the previous review report to the Review Team.

3. Review Visit

3.1 Following consideration of the documentation submitted by the Monitoring Committee, the Review Team, in conjunction with the Executive Committee, may decide that a visit is not necessary. The relevant sections of the Review Report shall be completed with clear indication that the Review Team agreed unanimously that a visit was not required.

3.2 The business language for the review visit shall be English. Where required, the Monitoring Committee under review shall provide a translator.

3.3 The costs of the review visit shall be borne by the Monitoring Committee under review. Such costs shall be limited to the payment of travel, accommodation and incidental expenses. The costs shall be reimbursed by the Monitoring Committee after the completion of the review visit. Travel shall be economy class except where flights exceed 8 hours duration or an overnight flight is required. Accommodation shall be fully serviced 3 star or 4 star.

3.4 Notwithstanding paragraph 8, it is recognised that the format of the review will have minor differences due to variations between the registration procedures of each Monitoring Committee. However, each Review Visit will seek to establish that the following criteria are fulfilled:

3.4 That the processes by which engineering technologists are registered domestically are robust and in accordance with the description provided to the Review Team by the Monitoring Committee;

3.5 That the processes by which International Engineering Technologists are registered are robust and in accordance with the Assessment Statement provided to the Monitoring Committee; that the standard of professional judgement demonstrated through acceptance or rejection of applications is satisfactory, including the judgement regarding demonstration of sufficient and satisfactory CPD;

3.6 The code of ethical conduct applicable to international registrants through their national code of conduct should include clauses requiring that, when undertaking engineering activities, engineers shall:

- (i) not misrepresent their educational qualifications or professional titles,
- (ii) accept appropriate responsibility for their work and that carries out under their supervision,
- (iii) ensure that they only undertake tasks for which they are competent,
- (iv) respect the personal rights of people with whom they work and the legal and cultural values of the societies in which they carry out assignments, and
- (v) avoid conflicts of interest, observe proper duties of confidentiality, not accept or give inducements, and consider the public interest and be prepared to contribute to public debate on matters of technical understanding in fields in which they are

competent to comment.

and must take reasonable steps to:

- (vi) maintain their relevant competencies at the necessary level,
- (vii) provide impartial analysis and judgement to employers,
- (viii) minimise foreseeable and avoidable impacts on the environment.

3.7 The standards of the accreditation system for academic programs and/or examinations are substantially equivalent to systems operated under the Sydney Accord.

3.8 Within an economy in which engineering technologists would not normally be expected to hold an engineering technology degree/diploma/certificate accredited under the Sydney Accord, practitioners may, in the context of the total assessment package, be considered to have met this standard by the point of entry to the Register when they have:

- (a) completed a structured programme of engineering education which is accredited by a signatory organisation or by an agency authorised by the signatory organisation, which is independent of the education provider, and/or
- (b) completed 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, or;
- (c) satisfactorily completed an assessment and have been certified/registered/licensed to practise as an Engineering Technologist in the Applicants own economy through competency or outcomes based assessment or any other verification mechanism, within the framework of the ETMF, that can be applied to assess the substantial equivalence of academic achievement through an alternative professional development route.

4. The Review Report

4.1 The Review Team shall compile a Review Report stating clearly the findings of the review team and its recommendations, which shall be as described in the ETMF IRET Constitution Schedule 3, Review Procedures paragraph 4.9.

4.2 The Review Team shall provide the Monitoring Committee it reviewed with a copy of the Review Report to confirm factual accuracy. The draft Review Report may be submitted by the reviewers to their home organisations for the purposes of quality assurance and advice, but may not be communicated to any signatory in draft or final form except through the Secretariat.

4.3 After the Review Team has received confirmation and agreement from the Monitoring Committee it reviewed, it shall then provide the Secretariat with its report. If agreement cannot be reached regarding the accuracy of the report, the Monitoring Committee may record its disagreements with the report and such comments must be recorded on the Review Report. A copy of the report will be circulated by the Secretariat to each authorised Monitoring Committee.

4.4 Any actions required as a result of the review shall be carried out in accordance with the ETMF IRET Constitution Schedule 3, Review Procedures paragraph 4.10.

ETMF REVIEW REPORT

Economy under review

Monitoring Committee Name & Address

Review Visit Dates: (Insert 'N/A' if visit not required)

VISIT SCHEDULE

(Insert 'N/A' if visit not required)

COMPOSITION OF REVIEW TEAM

Name

Economy

Team Leader:

Team Member:

Team Member:

MONITORING COMMITTEE REPRESENTATIVES

(Insert 'N/A' if visit not required)

ETMF REVIEW REPORT

1. ASSESSMENT OF DOCUMENTATION

1.1 List Of Documents Reviewed

1.2 Comments Regarding Documentation

2. ASSESSMENT OF PROCESSES

2.1 Processes Reviewed

2.2 Comments Regarding Processes

3. REVIEW FINDINGS

ETMF REVIEW REPORT

4. RECOMMENDATIONS

(Recommendations shall be as described in the ETMF IRET Constitution Schedule 3, Review Procedures paragraph 4.8)

ETMF REVIEW REPORT

DECLARATION

I confirm that this report is factually correct and presents a true and accurate record of the documentation and processes reviewed. I also confirm that the recommendations outlined in the report are as described in paragraph 4.9 of the ETMF IRET Constitution Schedule 3, Review Procedures.

Team Leader Name:

Team Leader Signature:

STATEMENT OF AGREEMENT OF MONITORING COMMITTEE

I confirm that this report presents a true and accurate record of the documentation and processes reviewed

Monitoring Committee Representative Name:

Monitoring Committee Representative Signature:

Appendix A

Extract from ETMF International Register of Engineering Technologists Constitution Schedule 3

4. REVIEW PROCEDURES

- 4.1** The assessment system applied by each authorised Monitoring Committee in controlling entry to a section of the International Register in the economy for which that Committee is responsible will be subject to monitoring by representatives of other authorised Monitoring Committees at intervals of not more than six years. The Executive Committee will establish a schedule for the implementation of the associated reviews and reports, and authorised Monitoring Committees will make every reasonable effort to comply with that schedule.
- 4.2** Any authorised Monitoring Committee which effects a substantial change to its assessment processes is obliged to report such a change to the Executive Committee and thus to provide the other authorised Monitoring Committees with an opportunity to request that the scheduled review be brought forward.
- 4.3** Upon receipt of a written request, each authorised Monitoring Committee will nominate two representatives to take part in reviewing the assessment criteria and procedures of any other Monitoring Committee (See Schedule 8). This clause shall not require any authorised Monitoring Committee to provide more than one such representative in any calendar year.
- 4.4** Three representatives will be selected by the Executive Committee from the list of nominees to form the review team which shall include at least one participant with experience in engineering technology education, and one from an industrial or professional background. The Executive Committee shall take all reasonable steps to ensure that none of the individuals selected through this process has had any substantial prior involvement in, or commitment to, the assessment system being reviewed.
- 4.5** The Monitoring Committee subject to review will be advised by the Secretariat of the proposed composition of the review team, and be invited to show cause why any member of the team is not suitable. In the event that such an objection is lodged, the Secretariat shall take such steps as appear necessary and appropriate to resolve the situation and shall, if unable to achieve consensus, consult the official representatives of all authorised Monitoring Committees before confirming the membership of the review team.
- 4.6** The Monitoring Committee subject to review will be given at least six months' notice of the review, and will be invited to propose suitable arrangements, timetable and administrative support mechanism, for consideration by the review team. The review will cover all aspects of the assessment process, including, where relevant, accreditation systems, examinations, training schemes, continuing professional development and professional interviews, and will include an assessment visit, unless upon consideration of the documents submitted, the review team decides that a visit is not necessary.
- 4.7** The costs of the review visit shall be borne by the Monitoring Committee under review. Such costs shall be limited to the payment of travel, accommodation and incidental expenses. The costs shall be reimbursed by the Monitoring Committee after the completion of the review visit. Travel shall be economy class except where flights exceed 8 hours duration or an overnight flight is required. Accommodation shall be fully serviced 3 star or 4 star.

4.8 Discussions relating to a review undertaken in accordance with these Rules will be held in confidence. At the conclusion of each review, the review team will forward its report and recommendations to the Executive Committee as soon as reasonably practicable. A copy of the report will be furnished to each authorised Monitoring Committee through the secretariat.

4.9 The recommendations open to the review team will be as follows:

- (a) that the International Register Coordinating Committee remove the interim authorisation status of the Monitoring Committee if such status pertains and extend the authorisation of the Monitoring Committee to operate a section of the International Register within their economy for a period of six years; or
- (b) that the International Register Coordinating Committee extend the present authorisation of the Monitoring Committee to operate a section of the International Register within their economy for a period of not more than three years, subject to that Committee providing, within six months, a report that satisfies the International Register Coordinating Committee that all specific issues of concern identified by the review team have been or will be addressed; or
- (c) that the International Register Coordinating Committee suspend the authorisation of the Monitoring Committee to operate a section of the International Register within their economy, and that urgent and specific assistance be offered by the International Register Coordinating Committee to help the Monitoring Committee to address the deficiencies identified by the review team.

4.10 Any resolution for suspension or termination of authorisation will require support from two-thirds of the authorised Monitoring Committees. No such suspension or termination shall, of itself, affect the recognition status of any practitioner who has already gained recognition in another economy.

5. APPEALS

5.1 Where an adverse recommendation has been made, and accepted by the Coordinating Committee, the Monitoring Committee in question may request that a separate review be conducted within six months by an appeal panel which is established in the same manner as, but has no membership in common with, the original review team.

5.2 The appeal panel will determine the procedures and criteria under which it operates. The full costs of any such appeal will be borne by the Monitoring Committee concerned and the right of appeal may be exercised only once. The outcomes of any appeal will be binding on all parties.

SCHEDULE 9

FORMAT FOR BIENNIAL REPORT TO THE ETMF GENERAL MEETING

DATE AND PLACE OF MEETING

CONTACT INFORMATION

Name of Organisation:

Membership Status:

Address:

Telephone:

Fax:

Email Address:

Website:

LEADERSHIP

Chief Operating Officer:

President:

Chair International Committee:

Chair of Monitoring Committee:

FOR FULL MEMBERS ONLY

BODIES REPRESENTED ON MONITORING COMMITTEE

ASSESSMENT STATEMENT CHANGES (Note: substantial changes to registration criteria, policies and practices must be reported to Executive Committee CI 16.4)

BILATERAL AGREEMENTS CONCLUDED AND UPDATED STATEMENTS OF CREDIT/BENEFIT (Note: these must also be reported to Executive Committee CI 17.3)

CPD REQUIREMENTS & RENEWAL OF REGISTRATION

PROBLEMS/ISSUES WITH OPERATION OF REGISTER

INTERNATIONAL/REGIONAL REGISTER

No of Registrants and disciplines

No of foreign applicants in the International/Regional Registers

RECENT MAJOR ACTIVITIES

Examples may include, but are not limited to, legislative changes, amendments to approved Assessment Statement, emerging issues affecting professional practice within the Full Member's country, any bi-lateral agreements to be concluded, mentoring being provided to provisional members if applicable

FOR PROVISIONAL MEMBERS ONLY

RECENT MAJOR ACTIVITIES

Indicate progress towards making an application for Full Membership and who is providing mentorship, legislative changes, significant changes to registration criteria, policies and practices which may affect application for full membership, emerging issues affecting professional practice within the Provisional Member's country, any bi-lateral agreements concluded or to be concluded.

SCHEDULE 10

ETMF REVIEWS

REQUEST FOR REVIEW PANEL NOMINATIONS

Nominations Required – 2 Industry and 2 Academia

ONE FORM PER NOMINEE – ALL FIELDS TO BE COMPLETED

NOMINATION MADE BY: (Name of Jurisdictions representative organisation and/or Monitoring Committee)	
JURISDICTION OR MONITORING COMMITTEE TO BE REVIEWED (as stipulated by the Secretariat):	
NAME OF PERSON NOMINATED (including Post-nominal's):	CONTACT DETAILS: Physical address:
NOMINATION TYPE: ACADEMIC INDUSTRY	E-mail Address: Phone: (including international dialling code)
POSITION TITLE:	
BOARD MEMBERSHIPS:	
PROFESSIONAL MEMBERSHIPS:	
PROFESSIONAL WORK HISTORY & ACHIEVEMENTS OF NOTE (In brief):	
PREVIOUS EXPERIENCE WITH INTERNATIONAL REVIEWS:	
DECLARATION OF NOMINATOR: I confirm that this report is to the best of my knowledge, factually correct.	
IEA contact name and title:	
Please forward the completed form to secretariat@ieagrements.org	

SCHEDULE 11

ENGINEERING TECHNOLOGIST MOBILITY FORUM

GRADUATE ATTRIBUTES AND PROFESSIONAL COMPETENCIES

The Engineering Technologist Mobility Forum has adopted the above document of the International Engineering Alliance, specifically those portions that are relevant to the engineering technologist.

In broad terms, the Sydney Accord (SA) provides for mutual recognition of programmes accredited for the engineering technologist track. The graduate attributes are exemplars of the attributes expected of graduate engineering technologists from an accredited programme. Graduate attributes form a set of individually assessable outcomes that are the components indicative of the graduate's potential to acquire competence to practise at the level of an engineering technologist. Graduate attributes are clear, succinct statements of the expected capability, qualified if necessary by a range indication appropriate to the type of programme.

The professional competency profile for the engineering technologist records the elements of competence necessary for competent performance that the engineering technologist is expected to be able to demonstrate in a holistic way at the stage of admission to the international register. The competencies are defined as a set of assessable outcomes that are exemplars of the competence that a person must display to be registered as a professional engineering technologist. Special emphasis would be placed on the level of responsibility demonstrated under outcome 13, consistent with the current requirements for the international register.

SCHEDULE 12

Engineering Technologists Mobility Forum

Glossary of Key Terms

Assessment Statements	A formal statement that details the criteria and procedures by which the eligibility of practitioners to appear on the International Register is intended to be determined.
Registration	Registration is the process of placing on a Register those who meet specified requirements within a jurisdiction.
License	License is an entitlement by law granted to persons who meet relevant standards of competence.
Certification	Certification is recognition of an attained level of engineering technology expertise, usually conferred by an engineering technologist association or technical council.
Full Member	Full Members are organisations responsible for registers of those professionally qualified engineering technologists who have been assessed as eligible for independent practice within their own economy, and whose qualifications are based on academic achievement substantially equivalent to that of a graduate holding an engineering degree accredited by an organisation holding membership of the Sydney Accord, and who have been granted interim or full authorization to maintain a section of the International Register.
International (Register) Coordinating Committee	An international body comprising one voting member from each Monitoring Committee, and others, to develop and maintain an authoritative Register of International Engineering Technologists and to promote acceptance of the International Engineering Technologist
International Register (of Engineering Technologists)	A decentralised Register with a section held by each authorised Full Member. Requirements for entry to the Register are set out in the ETMF Constitution paragraph 11.
Monitoring Committee	An independent authorised body established in participating ETMF member economies to develop and maintain a Register of International Professional Engineering Technologists.
Observers	Observers are representatives of other groups, which have an identity of interest with the ETMF in the mutual recognition of professional engineering qualifications.
Engineering Technologist	A general descriptor used to identify engineering professionals with capabilities to undertake independent professional engineering practice in a broadly defined area, and recognised by a national professional engineering

	technology body or state authority. ETMF member economies have specific nomenclatures and requirements.
Provisional Member	Provisional Members are organisations with or in the course of developing registers of professionally qualified engineering technologists in their own economies who intend to apply to be Full Members of the ETMF. Admission as a Provisional Member does not imply and shall not be used to imply that any part of the organisation's register meets the requirements for Full Membership.
Recognition	Recognition is acceptance by an authority of demonstration of compliance with requirements. It may be applied to courses or experience (where it may be referred to as accreditation) in the determination of equivalency.
Secretariat	An organisation which provides secretarial services for the administration of the activities of a consortium of International Engineering Agreements (IEAs). The organisation providing secretarial services is appointed from organisations affiliated to the IEAs and whose duties are defined in the consortium's Multi-Party Agreement (MPA).
Visitors	Visitors are organisations interested in the work of the ETMF and who attend for one meeting.

附錄5 國際工程聯盟各協定畢業生屬性及專業職能

International Engineering Alliance

Washington Accord

Sydney Accord

Dublin Accord

Engineers Mobility Forum

Engineering Technologists

Mobility Forum

Graduate Attributes and Professional Competencies

Version 2 - 18 June 2009

Executive Summary

Several accrediting bodies for engineering qualifications have developed outcomes-based criteria for evaluating programmes. Similarly, a number of engineering regulatory bodies have developed or are in the process of developing competency-based standards for registration. Educational and professional accords for mutual recognition of qualifications and registration have developed statements of graduate attributes and professional competency profiles. This document presents the background to these developments, their purpose and the methodology and limitations of the statements. After defining general range statements that allow the competencies of the different categories to be distinguished, the paper presents the graduate attributes and professional competency profiles for three professional tracks: engineer, engineering technologist and engineering technician.

1 Introduction

Engineering is an activity that is essential to meeting the needs of people, economic development and the provision of services to society. Engineering involves the purposeful application of mathematical and natural sciences and a body of engineering knowledge, technology and techniques. Engineering seeks to produce solutions whose effects are predicted to the greatest degree possible in often uncertain contexts. While bringing benefits, engineering activity has potential adverse consequences. Engineering therefore must be carried out responsibly and ethically, use available resources efficiently, be economic, safeguard health and safety, be environmentally sound and sustainable and generally manage risks throughout the entire lifecycle of a system.

Typical engineering activity requires several roles including those of the engineer, engineering technologist and engineering technician, recognized as professional registration categories in many jurisdictions¹. These roles are defined by their distinctive competencies and their level of responsibility to the public. There is a degree of overlap between roles. The distinctive competencies, together with their educational underpinnings, are defined in sections 4 to 6 of this document.

The development of an engineering professional in any of the categories is an ongoing process with important identified stages. The first stage is the attainment of an *accredited educational qualification*, the graduate stage. The fundamental purpose of *engineering education* is to build a knowledge base and attributes to enable the graduate to continue learning and to proceed to formative development that will develop the competencies required for independent practice. The second stage, following after a period of formative development, is *professional registration*. The fundamental

¹ The terminology used in this document uses the term *engineering* as an activity in a broad sense and *engineer* as shorthand for the various types of professional and chartered engineer. It is recognized that *engineers*, *engineering technologists* and *engineering technicians* may have specific titles or designations and differing legal empowerment or restrictions within individual jurisdictions.

purpose of formative development is to build on the educational base to develop the competencies required for independent practice in which the graduate works with engineering practitioners and progresses from an assisting role to taking more individual and team responsibility until competence can be demonstrated at the level required for registration. Once registered, the practitioner must maintain and expand competence.

For engineers and engineering technologists, a third milestone is to qualify for the *international register* held by the various jurisdictions. In addition, engineers, technologists and technicians are expected to maintain and enhance competency throughout their working lives.

Several international accords provide for recognition of graduates of accredited programmes of each signatory by the remaining signatories. The Washington Accord (WA) provides for mutual recognition of programmes accredited for the engineer track. The Sydney Accord (SA) establishes mutual recognition of accredited qualifications for engineering technologist. The Dublin Accord (DA) provides for mutual recognition of accredited qualifications for engineering technicians. These accords are based on the principle of substantial equivalence rather than exact correspondence of content and outcomes. This document records the signatories' consensus on the attributes of graduates for each accord.

Similarly, the Engineers Mobility Forum (EMF) and the Engineering Technologists Mobility Forum (ETMF) provide mechanisms to support the recognition of a professional registered in one signatory jurisdiction obtaining recognition in another. The signatories have formulated consensus competency profiles for the registration and these are recorded in this document. While no mobility forum currently exists for technicians, competency statements were also formulated for completeness and to facilitate any future development.

Section 2 give the background to the graduate attributes presented in section 5. Section 3 provides background to the professional competency profiles presented in section 6. General range statements are presented in section 4. The graduate attributes are presented in section 5 while the professional competency profiles are defined in section 6. Appendix A defines terms used in this document. Appendix B sketches the origin and development history of the graduate attributes and professional competency profiles.

2 Graduate Attributes

2.1 Purpose of Graduate Attributes

Graduate attributes form a set of individually assessable outcomes that are the components indicative of the graduate's potential to acquire competence to practise at the appropriate level. The graduate attributes are exemplars of the attributes expected of graduate from an accredited programme. Graduate attributes are clear, succinct statements of the expected capability, qualified if necessary by a range indication appropriate to the type of programme.

The graduate attributes are intended to assist Signatories and Provisional Members to develop outcomes-based accreditation criteria for use by their respective jurisdictions. Also, the graduate attributes guide bodies developing their accreditation systems with a view to seeking signatory status.

Graduate attributes are defined for educational qualifications in the engineer, engineering technologist and engineering technician tracks. The graduate attributes serve to identify the distinctive characteristics as well as areas of commonality between the expected outcomes of the different types of programmes.

2.2 Limitation of Graduate Attributes

Each signatory defines the standards for the relevant track (engineer, engineering technologist or engineering technician) against which engineering educational programmes are accredited. Each

educational level accord is based on the principle of *substantial equivalence*, that is, programmes are not expected to have identical outcomes and content but rather produce graduates who could enter employment and be fit to undertake a programme of training and experiential learning leading to professional competence and registration. The graduate attributes provide a point of reference for bodies to describe the outcomes of substantially equivalent qualification. The graduate attributes do not, in themselves, constitute an “international standard” for accredited qualifications but provide a widely accepted common reference for bodies to describe the outcomes of substantially equivalent qualifications.

The term graduate does not imply a particular type of qualification but rather the exit level of the qualification, be it a degree or diploma.

2.3 Scope and Organisation of Graduate Attributes

The graduate attributes are organized using twelve headings shown in section 5.2. Each heading identifies the differentiating characteristic that allows the distinctive roles of engineers, technologists and technicians to be distinguished by range information.

For each attribute, statements are formulated for engineer, engineering technologist and engineering technician using a common stem, with ranging information appropriate to each educational track. For example, for the **Knowledge of Engineering Sciences** attribute:

Common Stem: Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization ...

Engineer Range: ... to the solution of complex engineering problems.

Engineering Technologist Range: ... to defined and applied engineering procedures, processes, systems or methodologies.

Engineering Technician Range: ... to wide practical procedures and practices.

The resulting statements are shown below for this example:

... for Washington Accord Graduate	... for Sydney Accord Graduate	... for Dublin Accord Graduate
Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.	Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to defined and applied engineering procedures, processes, systems or methodologies.	Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to wide practical procedures and practices.

The range qualifier in several attribute statements uses the notions of *complex engineering problems*, *broadly-defined engineering problems* and *well-defined engineering problems*. These shorthand level descriptors are defined in section 4.

The attributes are chosen to be universally applicable and reflect acceptable minimum standards and be capable of objective measurement. While all attributes are important, individual attributes are not necessarily of equal weight. Attributes are selected that are expected to be valid for extended periods and changed infrequently only after considerable debate. Attributes may depend on information external to this document, for example generally accepted principles of ethical conduct.

The full set of graduate attribute definitions are given in section 5.

2.4 Contextual Interpretation

The graduate attributes are stated generically and are applicable to all engineering disciplines. In interpreting the statements within a disciplinary context, individual statements may be amplified and given particular emphasis but must not be altered in substance or individual elements ignored.

2.5 Best Practice in Application of Graduate Attributes

The attributes of Accord programmes are defined as a *knowledge profile*, an indicated volume of learning and the attributes against which graduates must be able to perform. The requirements are stated without reference to the design of programmes that would achieve the requirements. Providers therefore have freedom to design programmes with different detailed structure, learning pathways and modes of delivery. Evaluation of individual programmes is the concern of national accreditation systems.

3 Professional Competency Profiles

3.1 Purpose of Professional Competency Profiles

A professionally or occupationally *competent person* has the attributes necessary to perform the activities within the profession or occupation to the standards expected in independent employment or practice. The *professional competency profiles* for each professional category record the elements of competency necessary for competent performance that the professional is expected to be able to demonstrate in a holistic way at the stage of attaining registration.

Professional competence can be described using a set of attributes corresponding largely to the graduate attributes, but with different emphases. For example, at the professional level, the ability to take responsibility in a real-life situation is essential. Unlike the graduate attributes, professional competence is more than a set of attributes that can be demonstrated individually. Rather, competence must be assessed holistically.

3.2 Scope and Organisation of Professional Competency Profiles

The professional competency profiles are written for each of the three categories: engineer, engineering technologist and engineering technician at the point of registration². Each profile consists of thirteen elements. Individual elements are formulated around a differentiating characteristic using a stem and modifier, similarly to the method used for the graduate attributes described in section 2.3.

The stems are common to all three categories and the range modifiers allow distinctions and commonalities between categories to be identified. Like their counterparts in the graduate attributes, the range statements use the notions of complex engineering problems, broadly-defined engineering problems and well-defined engineering problems defined in section 4.1. At the professional level, a classification of engineering activities is used to define ranges and to distinguish between categories. Engineering activities are classified as *complex*, *broadly-defined* or *well-defined*. These shorthand level descriptors are defined in section 4.2.

3.3 Limitations of Professional Competency Profile

As in the case of the graduate attributes, the professional competency profiles are not prescriptive in detail but rather reflect the essential elements that would be present in competency standards.

The professional competency profiles do not specify performance indicators or how the above items should be interpreted in assessing evidence of competence from different areas of practice or for different types of work. Section 3.4 examines contextual interpretation.

² Requirements for the EMF and ETMF International Registers call for enhanced competency and responsibility.

Each jurisdiction may define *performance indicators*, that is actions on the part of the candidate that demonstrate competence. For example, a design competency may be evidenced by the following performances:

- 1: Identify and analyse design/ planning requirement and draw up detailed requirements specification*
- 2: Synthesise a range of potential solutions to problem or approaches to project execution*
- 3: Evaluate the potential approaches against requirements and impacts outside requirements*
- 4: Fully develop design of selected option*
- 5: Produce design documentation for implementation*

3.4 Contextual Interpretation

Demonstration of competence may take place in different areas of practice and different types of work. Competence statements are therefore discipline-independent. Competence statements accommodate different types of work, for example design, research and development and engineering management by using the broad phases in the cycle of engineering activity: problem analysis, synthesis, implementation, operation and evaluation, together the management attributes needed. The competence statements include the personal attributes needed for competent performance irrespective of specific local requirements: communication, ethical practice, judgement, taking responsibility and the protection of society.

The professional competency profiles are stated generically and are applicable to all engineering disciplines. The application of a competency profile may require amplification in different regulatory, disciplinary, occupational or environmental contexts. In interpreting the statements within a particular context, individual statements may be amplified and given particular emphasis but must not be altered in substance or ignored.

3.5 Mobility between Professional Categories

The graduate attributes and professional competency for each of three categories of engineering practitioner define the benchmark route or vertical progression in each category. This document does not address the movement of individuals between categories, a process that usually required additional education, training and experience. The graduate attributes and professional competencies, through their definitions of level of demand, knowledge profile and outcomes to be achieved, allow a person planning such a change to gauge the further learning and experience that will be required. The education and registration requirements of the jurisdiction should be examined for specific requirements.

4 Common Range and Contextual Definitions

4.1 Range of Problem Solving

Attribute	Complex Problems	Broadly-defined Problems	Well-defined Problems
1 Preamble	Engineering problems which cannot be resolved without in-depth engineering knowledge, much of which is at, or informed by, the forefront of the professional discipline, and have some or all of the following characteristics:	Engineering problems which cannot be pursued without a coherent and detailed knowledge of defined aspects of a professional discipline with a strong emphasis on the application of developed technology, and have the following characteristics	Engineering problems having some or all of the following characteristics:
2 Range of conflicting requirements	Involve wide-ranging or conflicting technical, engineering and other issues	Involve a variety of factors which may impose conflicting constraints	Involve several issues, but with few of these exerting conflicting constraints
3 Depth of analysis required	Have no obvious solution and require abstract thinking, originality in analysis to formulate suitable models	Can be solved by application of well-proven analysis techniques	Can be solved in standardised ways
4 Depth of knowledge required	Requires research-based knowledge much of which is at, or informed by, the forefront of the professional discipline and which allows a fundamentals-based, first principles analytical approach	Requires a detailed knowledge of principles and applied procedures and methodologies in defined aspects of a professional discipline with a strong emphasis on the application of developed technology and the attainment of know-how, often within a multidisciplinary engineering environment	Can be resolved using limited theoretical knowledge but normally requires extensive practical knowledge
5 Familiarity of issues	Involve infrequently encountered issues	Belong to families of familiar problems which are solved in well-accepted ways	Are frequently encountered and thus familiar to most practitioners in the practice area
6 Extent of applicable codes	Are outside problems encompassed by standards and codes of practice for professional engineering	May be partially outside those encompassed by standards or codes of practice	Are encompassed by standards and/or documented codes of practice
7 Extent of stakeholder involvement and level of conflicting requirements	Involve diverse groups of stakeholders with widely varying needs	Involve several groups of stakeholders with differing and occasionally conflicting needs	Involve a limited range of stakeholders with differing needs
8 Consequences	Have significant consequences in a range of contexts	Have consequences which are important locally, but may extend more widely	Have consequences which are locally important and not far-reaching
9 Interdependence	Are high level problems including many component parts or sub-problems	Are parts of, or systems within complex engineering problems	Are discrete components of engineering systems

4.2 Range of Engineering Activities

Attribute	Complex Activities	Broadly-defined Activities	Well-defined Activities
1 Preamble	Complex activities means (<i>engineering</i>) activities or projects that have some or all of the following characteristics:	Broadly defined activities means (<i>engineering</i>) activities or projects that have some or all of the following characteristics:	Well-defined activities means (<i>engineering</i>) activities or projects that have some or all of the following characteristics:
2 Range of resources	Involve the use of diverse resources (and for this purpose resources includes people, money, equipment, materials, information and technologies)	Involve a variety of resources (and for this purposes resources includes people, money, equipment, materials, information and technologies)	Involve a limited range of resources (and for this purpose resources includes people, money, equipment, materials, information and technologies)
3 Level of interactions	Require resolution of significant problems arising from interactions between wide-ranging or conflicting technical, engineering or other issues,	Require resolution of occasional interactions between technical, engineering and other issues, of which few are conflicting	Require resolution of interactions between limited technical and engineering issues with little or no impact of wider issues
4 Innovation	Involve creative use of engineering principles and research-based knowledge in novel ways.	Involve the use of new materials, techniques or processes in non-standard ways	Involve the use of existing materials techniques, or processes in modified or new ways
5 Consequences to society and the environment	Have significant consequences in a range of contexts, characterized by difficulty of prediction and mitigation	Have reasonably predictable consequences that are most important locally, but may extend more widely	Have consequences that are locally important and not far-reaching
6 Familiarity	Can extend beyond previous experiences by applying principles-based approaches	Require a knowledge of normal operating procedures and processes	Require a knowledge of practical procedures and practices for widely-applied operations and processes

5 Accord programme profiles

The following tables provides profiles of graduates of three types of tertiary education engineering programmes. See section 4 for definitions of complex engineering problems, broadly-defined engineering problems and well-defined engineering problems.

5.1 Knowledge profile

A Washington Accord programme provides:	A Sydney Accord programme provides:	A Dublin Accord programme provides:
<ul style="list-style-type: none"> • A systematic, theory-based understanding of the natural sciences applicable to the discipline (e.g. calculus-based physics) • Conceptually-based mathematics, numerical analysis, statistics and formal aspects of computer and information science to support analysis and modelling applicable to the discipline • A systematic, theory-based formulation of engineering fundamentals required in the engineering discipline 	<ul style="list-style-type: none"> • A systematic, theory-based understanding of the natural sciences applicable to the sub-discipline • Conceptually-based mathematics, numerical analysis, statistics and aspects of computer and information science to support analysis and use of models applicable to the sub-discipline • A systematic, theory-based formulation of engineering fundamentals required in an accepted sub-discipline 	<ul style="list-style-type: none"> • A descriptive, formula-based understanding of the natural sciences applicable in a sub-discipline • Procedural mathematics, numerical analysis, statistics applicable in a sub-discipline
<ul style="list-style-type: none"> • engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline. • knowledge that supports engineering design in a practice area • knowledge of engineering practice (technology) in the practice areas in the engineering discipline 	<ul style="list-style-type: none"> • engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for an accepted sub-discipline • knowledge that supports engineering design using the technologies of a practice area • knowledge of engineering technologies applicable in the sub-discipline 	<ul style="list-style-type: none"> • A coherent procedural formulation of engineering fundamentals required in an accepted sub-discipline • engineering specialist knowledge that provides the body of knowledge for an accepted sub-discipline
<ul style="list-style-type: none"> • comprehension of the role of engineering in society and identified issues in engineering practice in the discipline: ethics and the professional responsibility of an engineer to public safety; the impacts of engineering activity: economic, social, cultural, environmental and sustainability; • Engagement with selected knowledge in the research literature of the discipline 	<ul style="list-style-type: none"> • comprehension of the role of technology in society and identified issues in applying engineering technology: ethics and impacts: economic, social, environmental and sustainability • engagement with the technological literature of the discipline 	<ul style="list-style-type: none"> • knowledge that supports engineering design based on the techniques and procedures of a practice area • codified practical engineering knowledge in recognised practice area. • knowledge of issues and approaches in engineering technician practice: ethics, financial, cultural, environmental and sustainability impacts
<ul style="list-style-type: none"> • A programme that builds this type of knowledge and develops the attributes listed below is typically achieved in 4 to 5 years of study, depending on the level of students at entry. 	<ul style="list-style-type: none"> • A programme that builds this type of knowledge and develops the attributes listed below is typically achieved in 3 to 4 years of study, depending on the level of students at entry. 	<ul style="list-style-type: none"> • A programme that builds this type of knowledge and develops the attributes listed below is typically achieved in 2 to 3 years of study, depending on the level of students at entry.

5.2 Graduate Attribute profiles

	Differentiating Characteristic	... for Washington Accord Graduate	... for Sydney Accord Graduate	... for Dublin Accord Graduate
1. Engineering Knowledge	Breadth and depth of education and type of knowledge, both theoretical and practical	Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems	Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to defined and applied engineering procedures, processes, systems or methodologies.	Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to wide practical procedures and practices.
2. Problem Analysis	Complexity of analysis	Identify, formulate, research literature and analyse <i>complex</i> engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.	Identify, formulate, research literature and analyse <i>broadly-defined</i> engineering problems reaching substantiated conclusions using analytical tools appropriate to their discipline or area of specialisation.	Identify and analyse <i>well-defined</i> engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity.
3. Design/development of solutions	Breadth and uniqueness of engineering problems i.e. the extent to which problems are original and to which solutions have previously been identified or codified	Design solutions for <i>complex</i> engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.	Design solutions for <i>broadly-defined</i> engineering technology problems and contribute to the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.	Design solutions for <i>well-defined</i> technical problems and assist with the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
4. Investigation	Breadth and depth of investigation and experimentation	Conduct investigations of <i>complex</i> problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.	Conduct investigations of <i>broadly-defined</i> problems; locate, search and select relevant data from codes, data bases and literature, design and conduct experiments to provide valid conclusions.	Conduct investigations of <i>well-defined</i> problems; locate and search relevant codes and catalogues, conduct standard tests and measurements.
5. Modern Tool Usage	Level of understanding of the appropriateness of the tool	Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to <i>complex</i> engineering activities, with an understanding of the limitations.	Select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to <i>broadly-defined</i> engineering activities, with an understanding of the limitations.	Apply appropriate techniques, resources, and modern engineering and IT tools to <i>well-defined</i> engineering activities, with an awareness of the limitations.

6.	The Engineer and Society	Level of knowledge and responsibility	Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice.	Demonstrate understanding of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technology practice.	Demonstrate knowledge of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technician practice.
7.	Environment and Sustainability	Type of solutions.	Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.	Understand the impact of engineering technology solutions in societal and environmental context and demonstrate knowledge of and need for sustainable development.	Understand the impact of engineering technician solutions in societal and environmental context and demonstrate knowledge of and need for sustainable development.
8.	Ethics	Understanding and level of practice	Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.	Understand and commit to professional ethics and responsibilities and norms of engineering technology practice.	Understand and commit to professional ethics and responsibilities and norms of technician practice.
9.	Individual and Team work	Role in and diversity of team	Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.	Function effectively as an individual, and as a member or leader in diverse technical teams.	Function effectively as an individual, and as a member in diverse technical teams.
10.	Communication	Level of communication according to type of activities performed	Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.	Communicate effectively on broadly-defined engineering activities with the engineering community and with society at large, by being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions	Communicate effectively on well-defined engineering activities with the engineering community and with society at large, by being able to comprehend the work of others, document their own work, and give and receive clear instructions
11.	Project Management and Finance	Level of management required for differing types of activity	Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.	Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member and leader in a team and to manage projects in multidisciplinary environments	Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member and leader in a technical team and to manage projects in multidisciplinary environments
12.	Life long learning	Preparation for and depth of continuing learning.	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.	Recognize the need for, and have the ability to engage in independent long learning in specialist technologies.	Recognize the need for, and have the ability to engage in independent updating in the context of specialized technical knowledge.

6 Professional Competency Profiles

To meet the minimum standard of competence a person must demonstrate that he/she is able to practice competently in his/her practice area to the standard expected of a reasonable Professional Engineer/Engineering Technologist/Engineering Technician.

The extent to which the person is able to perform each of the following elements in his/her practice area must be taken into account in assessing whether or not he/she meets the overall standard.

	Differentiating Characteristic	Professional Engineer	Engineering Technologist	Engineering Technician
1.	Comprehend and apply universal knowledge	Comprehend and apply advanced knowledge of the widely-applied principles underpinning good practice	Comprehend and apply the knowledge embodied in widely accepted and applied procedures, processes, systems or methodologies	Comprehend and apply knowledge embodied in standardised practices
2.	Comprehend and apply local knowledge	Comprehend and apply advanced knowledge of the widely-applied principles underpinning good practice specific to the jurisdiction in which he/she practices.	Comprehend and apply the knowledge embodied in procedures, processes, systems or methodologies that is specific to the jurisdiction in which he/she practices.	Comprehend and apply knowledge embodied in standardised practices specific to the jurisdiction in which he/she practices.
3.	Problem analysis	Define, investigate and analyse complex problems	Identify, clarify, and analyse broadly-defined problems	Identify, state and analyse well-defined problems
4.	Design and development of solutions	Design or develop solutions to complex problems	Design or develop solutions to broadly-defined problems	Design or develop solutions to well-defined problems
5.	Evaluation	Evaluate the outcomes and impacts of complex activities	Evaluate the outcomes and impacts of broadly defined activities	Evaluate the outcomes and impacts of well-defined activities
6.	Protection of society	Recognise the reasonably foreseeable social, cultural and environmental effects of complex activities generally, and have regard to the need for sustainability; recognise that the protection of society is the highest priority	Recognise the reasonably foreseeable social, cultural and environmental effects of broadly-defined activities generally, and have regard to the need for sustainability; take responsibility in all these activities to avoid putting the public at risk.	Recognise the reasonably foreseeable social, cultural and environmental effects of well-defined activities generally, and have regard to the need for sustainability; use engineering technical expertise to prevent dangers to the public.
7.	Legal and regulatory	Meet all legal and regulatory requirements and protect public health and safety in the course of his or her activities	Meet all legal and regulatory requirements and protect public health and safety in the course of his or her activities	Meet all legal and regulatory requirements and protect public health and safety in the course of his or her activities

8.	Ethics	No differentiation in this characteristic	Conduct his or her activities ethically	Conduct his or her activities ethically	Conduct his or her activities ethically
9.	Manage engineering activities	Types of activity	Manage part or all of one or more complex activities	Manage part or all of one or more broadly-defined activities	Manage part or all of one or more well-defined activities
10.	Communication	No differentiation in this characteristic	Communicate clearly with others in the course of his or her activities	Communicate clearly with others in the course of his or her activities	Communicate clearly with others in the course of his or her activities
11.	Lifelong learning	Preparation for and depth of continuing learning.	Undertake CPD activities sufficient to maintain and extend his or her competence	Undertake CPD activities sufficient to maintain and extend his or her competence	Undertake CPD activities sufficient to maintain and extend his or her competence
12.	Judgement	Level of developed knowledge, and ability and judgement in relation to type of activity	Recognize complexity and assess alternatives in light of competing requirements and incomplete knowledge. Exercise sound judgement in the course of his or her complex activities	Choose appropriate technologies to deal with broadly defined problems. Exercise sound judgement in the course of his or her broadly-defined activities	Choose and apply appropriate technical expertise. Exercise sound judgement in the course of his or her well-defined activities
13.	Responsibility for decisions	Type of activity for which responsibility is taken	Be responsible for making decisions on part or all of complex activities	Be responsible for making decisions on part or all of one or more broadly defined activities	Be responsible for making decisions on part or all of one or more well-defined activities

Appendix A: Definitions of terms

Note: These definitions apply to terms used in this document but also indicate equivalence to terms used in other engineering education standards.

Branch of engineering: a generally-recognised, major subdivision of engineering such as the traditional *disciplines* of Chemical, Civil, or Electrical Engineering, or a cross-disciplinary field of comparable breadth including combinations of engineering fields, for example Mechatronics, and the application of engineering in other fields, for example Bio-Medical Engineering.

Broadly-defined engineering problems: a class of problem with characteristics defined in section 4.1.

Broadly-defined engineering activities: a class of activities with characteristics defined in section 4.2.

Complementary (contextual) knowledge: Disciplines other than engineering, basic and mathematical sciences, that support engineering practice, enable its impacts to be understood and broaden the outlook of the engineering graduate.

Complex engineering problems: a class of problem with characteristics defined in section 4.1.

Complex engineering activities: a class of activities with characteristics defined in section 4.2.

Continuing Professional Development: the systematic, accountable maintenance, improvement and broadening of knowledge and skills, and the development of personal qualities necessary for the execution of professional and technical duties throughout an engineering practitioner's career.

Engineering sciences: include engineering fundamentals that have roots in the mathematical and physical sciences, and where applicable, in other natural sciences, but extend knowledge and develop models and methods in order to lead to applications and solve problems, providing the knowledge base for engineering specializations.

Engineering design knowledge: Knowledge that supports engineering design in a practice area, including codes, standards, processes, empirical information, and knowledge reused from past designs.

Engineering discipline: synonymous with *branch of engineering*.

Engineering fundamentals: a systematic formulation of engineering concepts and principles based on mathematical and basic sciences to support applications.

Engineering problem: is one that exists in any domain that can be solved by the application of engineering knowledge and skills and generic competencies.

Engineering practice: a generally accepted or legally defined area of engineering work or engineering technology.

Engineering speciality or specialization: a generally-recognised practice area or major subdivision within an engineering discipline, for example Structural and Geotechnical Engineering within Civil Engineering; the extension of engineering fundamentals to create theoretical frameworks and bodies of knowledge for engineering practice areas.

Engineering technology: is an established body of knowledge, with associated tools, techniques, materials, components, systems or processes that enable a family of practical applications and that relies for its development and effective application on engineering knowledge and competency.

Formative development: the process that follows the attainment of an accredited education programme that consists of training, experience and expansion of knowledge.

Manage: means planning, organising, leading and controlling in respect of risk, project, change, financial, compliance, quality, ongoing monitoring, control and evaluation.

Mathematical sciences: mathematics, numerical analysis, statistics and aspects of computer science cast in an appropriate mathematical formalism.

Natural sciences: Provide, as applicable in each engineering discipline or practice area, an understanding the physical world including physics, mechanics, chemistry, earth sciences and the biological sciences,

Practice area: *in the educational context:* synonymous with generally-recognised engineering speciality; *at the professional level:* a generally recognised or distinctive area of knowledge and expertise developed by an engineering practitioner by virtue of the path of education, training and experience followed.

Research-based knowledge: a systematic understanding of knowledge and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of the academic discipline, field of study or area of professional practice.

Solution: means an effective proposal for resolving a problem, taking into account all relevant technical, legal, social, cultural, economic and environmental issues and having regard to the need for sustainability.

Subdiscipline: Synonymous with *engineering speciality*.

Substantial equivalence: applied to educational programmes means that two programmes, while not meeting a single set of criteria, are both acceptable as preparing their respective graduates to enter formative development toward registration.

Well-defined engineering problems: a class of problem with characteristics defined in section 4.1.

Well-defined engineering activities: a class of activities with characteristics defined in section 4.2.

Appendix B: History of Graduate Attributes and Professional Competency Profiles

The signatories to the Washington Accord recognized the need to describe the attributes of a graduate of a Washington Accord accredited program. Work was initiated at its June 2001 meeting held at Thornybush, South Africa. At the International Engineering Meetings (IEM) held in June 2003 at Rotorua, New Zealand, the signatories to the Sydney Accord and the Dublin Accord recognized similar needs. The need was recognized to distinguish the attributes of graduates of each type of programme to ensure fitness for their respective purposes.

The Engineers Mobility Forum (EMF) and Engineering Technologist Mobility Forum (ETMF) have created international registers in each jurisdiction with current admission requirements based on registration, experience and responsibility carried. The mobility agreements recognize the future possibility of competency-based assessment for admission to an international register. At the 2003 Rotorua meetings, the mobility fora recognized that many jurisdictions are in the process of developing and adopting competency standards for professional registration. The EMF and the ETMF therefore resolved to define assessable sets of competencies for engineer and technologist. While no comparable mobility agreement exists for technicians, the development of a corresponding set of standards for engineering technicians was felt to be important to have a complete description of the competencies of the engineering team.

A single process was therefore agreed to develop the three sets of graduate attributes and three professional competency profiles. An International Engineering Workshop (IEWS) was held by the three educational accord and the two mobility fora in London in June 2004 to develop statements of Graduate Attributes and International Register Professional Competency Profiles for the Engineer, Engineering Technologist and Engineering Technician categories. The resulting statements were then opened for comment by the signatories. The comments received called for minor changes only.

The Graduate Attributes and Professional Competencies were adopted by the signatories of the five agreements in June 2005 at Hong Kong as version 1.1.

A number of areas of improvement in the Graduate Attributes and Professional Competencies themselves and their potential application were put to the meetings of signatories in Washington DC in June 2007. A working group was set up to address the issues. The IEA workshop held in June 2008 in Singapore considered the proposals of the working group and commissioned the Working Group to make necessary changes with a view to presenting Version 2 of the document for approval by the signatories at their next general meetings. Version 2 was approved at the Kyoto IEA meetings, 15-19 June 2008.

This document is available through the IEA website: <http://www.ieagreements.org>.

附錄6 首爾協定

SEOUL ACCORD 2008

The Seoul Accord is a multi-lateral agreement among agencies responsible for accreditation or recognition of tertiary-level computing and IT-related qualifications. These agencies have chosen to work collectively to assist the mobility of computing and IT-related professionals holding suitable qualifications and to improve the quality of tertiary-level computing and IT-related education. Membership (called being a *signatory*) is voluntary, but the signatories are committed to development and recognition of good practice in computing and IT-related education. The number of signatories is expected to grow, and the activities of the Accord signatories are intended to assist growing globalization of mutual recognition of computing and IT-related qualifications. However, it is acknowledged that there are other approaches by other multi-jurisdictional groupings. As the Accord signatories seek to work with other groupings and as computing and IT-related disciplines evolve in accordance with technical, professional, and societal needs, the nature of the Accord could evolve. Hence the documents presented in this compendium could change in the future.

FOUNDATION DOCUMENTS

This compendium of documents includes three basic documents relating to the establishment and operation of an accord for mutual recognition of accreditation/recognition systems:

- A. Governance Document (the Accord itself)
- B. Rules and Procedures (mandatory things that expand the governance document) – these are changeable according to a defined process.
- C. Guidelines (representing the "norm" of how things are done, but which are not mandatory) – these are changeable according to a defined process.

These documents are current as of December 6, 2008.

Table of Contents

Section A – Governance Document.....	4
1. Seoul Accord Guiding Principles.....	4
2. Seoul Accord Agreement.....	4
Section B – Rules and Procedures	6
1. Definitions.....	6
2. Admission	7
2.1 Provisional status	7
2.2 Becoming a signatory	9
3. Periodic Monitoring of Signatories.....	10
3.1 Rolling monitoring program	10
3.2 Nomination of Persons to Form Teams	10
3.3 Procedure A	10
3.4 Procedure B.....	11
3.5 Consideration of Recommendations and Requests for Reconsideration	13
3.6 Upgrade from or Continuation of Conditional Status.....	14
4. Resignation, Downgrading and Termination.....	15
4.1 Resignation	15
4.2 Downgrading for Failure to Demonstrate Ongoing Equivalence	15
4.3 Termination for Failure to Meet Obligations as a Signatory	16
4.4 Termination of Provisional Status	16
5. Conduct of Meetings, Rights of and Obligations on Signatories and Organisations	
Holding Provisional Status	17
5.1 Meetings.....	17
5.2 Workshops	20
6. Changes to Accord Agreement, Rules and Procedures, and Guidelines	21
6.1 Changes to Accord Agreement	21
6.2 Changes to Rules and Procedures	21
6.3 Changes to the Guidelines	22
6.4 Voting	22
7. Officers	23
8. Accreditation/Recognition Outside of Jurisdiction.....	24
9. Secretariat	25
10. Contribution to Costs	26
Section C – Guidelines.....	27
1. Computing and IT-related Programs Within the Scope of the Accord.....	27
2. Applying for Provisional Status.....	27
2.1 Preliminary Steps Prior to Making Application.....	27
2.2 Documentation in Support of Applications	28
2.3 Guidelines to Assist in Evaluation of Applications	28
3. Mentoring.....	30
3.1 Principles.....	30
3.2 Appointment of Mentors.....	30
3.3. Reporting.....	31
3.4 Consultants.....	31
3.5 Mentoring provided by individual signatories.....	31
4. Applying to Become a Signatory.....	32
5. Periodic Monitoring	34
5.1 Procedure A: Periodic Monitoring.....	34

5.2 Procedure B: Continuous Monitoring.....	35
5.3 General protocols applying to both procedures	35
6. Fulfilment of Accord Obligations.....	37
6.1 Bi-Annual Reporting by Signatories.....	37
6.2 Bi-Annual Reporting by Organizations Holding Provisional Status	38
6.3 Issue Resolution	38
7. Principles of Good Practice for Accord Signatories Working Internationally	39
Section D - Graduate Attributes.....	42
Introduction.....	42
Background for the Graduate Attributes.....	42
<i>Purpose of Graduate Attributes</i>	42
<i>Limitation of Graduate Attributes</i>	43
<i>Scope and Organization of Graduate Attributes</i>	43
<i>Contextual Interpretation</i>	44
Definitions Associated with the Graduate Attributes	44
Common Range and Contextual Definitions Associated with the Graduate Attributes.....	45
<i>Range of Problem Solving</i>	45
<i>Range of Computing Activities</i>	46
Graduate Attributes.....	46
Conclusion	49

Section A – Governance Document

1. Seoul Accord Guiding Principles

1. The Accord is based on mutual respect for the autonomy of its signatories.
2. There will be transparency to the accreditation systems of the signatories and to the educational systems to which the accreditation systems are oriented.
3. The signatories will be autonomous and free from governmental or other external influence on the accreditation processes.
4. The Accord should avoid any perception that it is arbitrary and capricious in its practices and policies, including admitting members and applying rules of membership.
5. The Accord should work to become recognized as the international authority on quality assurance for education in the computing and IT-related professions.
6. The Accord will promote and develop best practices for the improvement of education in computing and IT-related disciplines.
7. The Accord should continually review its policies and procedures to ensure that they are relevant and reliable indicators of the future of computing and IT-related technologies.
8. The members of the Accord will be accreditation agencies, not countries.

2. Seoul Accord Agreement

Recognition of Equivalency of Accredited Academic Programs Leading to a Degree in a Computing or IT-related Discipline

The signatories have exchanged information on, and have examined, their respective processes, policies and procedures for granting accreditation to academic computing and IT-related programs, and have concluded that these are comparable. Through the Seoul Accord, which comprises this Agreement, the Rules and Procedures and the Graduate Attributes, the signatories recognise the equivalence of such programs in satisfying the academic requirements for preparation to enter computing or IT-related practice at the professional level.

1. Accreditation of academic computing and IT-related programs is a key foundation for the practice of a computing or IT-related discipline at the professional level in each of the countries or territories covered by the Accord. The signatories therefore agree:
 - a. that the criteria, policies, and procedures used by the signatories in accrediting academic computing and IT-related programs are comparable;
 - b. that the accreditation decisions rendered by one signatory are acceptable to the other signatories, and that those signatories will so indicate by publishing statements to that effect in an appropriate manner;

- c. to identify, and to encourage the implementation of, best practice, as agreed from time to time amongst the signatories, for academic preparation for computing and IT-related practice at the professional level;
 - d. to continue mutual monitoring and information exchange by whatever means are considered most appropriate, including:
 - i. regular communication and sharing of information concerning their accreditation criteria, systems, procedures, manuals, publications and lists of accredited programs;
 - ii. invitations to observe accreditation visits;
 - iii. invitations to observe meetings of any boards and/or commissions responsible for implementing key aspects of the accreditation process, and meetings of the governing bodies of the signatories.
2. Each signatory will make every reasonable effort to ensure that any bodies responsible for registering or licensing computing and IT-related professionals to practice in its country or territory accept the equivalence of academic computing and IT-related programs accredited by the signatories to this agreement.
 3. The admission of new signatories to the Accord will require the approval of the existing signatories according to procedures specified in the Rules and Procedures of the Accord, and will be preceded by a prescribed period of provisional status, during which the accreditation criteria and procedures established by the applicant, and the manner in which those procedures and criteria are implemented, will be subject to comprehensive examination.
 4. Appropriate Rules and Procedures for the Accord will be established by the signatories to ensure that this Agreement can be implemented in a satisfactory and expeditious manner.
 5. There shall be general meetings of the representatives of the signatories, as specified in the Rules and Procedures, to review the Rules and Procedures and other documents relative to the Accord, effect such amendments as may be considered necessary to the documents, deal with applications for provisional status and for admission, and consider other matters relative to effective operation of the Accord in achieving its objectives.
 6. The administration of the Accord will be facilitated by a secretariat established and operated in accordance with the Rules and Procedures made under the provisions of this Agreement.
 7. Any signatory wishing to withdraw from the Accord must give at least one year's notice to the secretariat. Removal of any signatory may occur only as specified in the Rules of Procedure.
 8. The Accord will remain in effect for so long as it is acceptable and desirable to the signatories.

Section B – Rules and Procedures

1. Definitions

Applicant: An organisation that has applied for provisional status within the Accord. Any such authority, agency or institution must be independent of the academic institutions delivering programs that may be accredited by the organization.

Committee: The Chair and the Deputy Chair of the Accord acting as a managing committee of the Accord. In these roles the office-holder acts for the Accord and cannot represent a signatory of the Accord.

Conditional status: The status to which a signatory organisation is downgraded if, as an outcome of monitoring and review, other signatories consider that the organisation's accreditation system has significant deficiencies requiring immediate attention. Organisations holding conditional status do not have the right to vote, and the rights of graduates for the years during which conditional status is in place are suspended.

Education provider: A tertiary (post-secondary) education teaching establishment such as a university, polytechnic, vocational teaching college or similar establishment.

Jurisdiction: A geographical or otherwise defined region, such as a country or state, within which an accreditation/recognition agency is based, and within which the agency has recognized authority to conduct accreditation/recognition processes.

Meeting method: General meetings will normally be held face to face, but business also may be conducted under urgency through teleconference or other active method of communication, or electronic polling (a meeting method in which signatories either vote to agree or disagree with a proposal put to the vote).

Mentee: An organisation being mentored because of its commitment to gain provisional status or to become a signatory of the Accord.

Mentor: A signatory assigned by the Committee to act on behalf of the Accord and work with an applicant through a program of visits and advice in order to assist the applicant with its progress to provisional status and/or to becoming a signatory subsequently. The term "mentor" may also refer to a mentoring team appointed by the Committee. The mentoring team will consist of two or three representatives from full signatories of the Accord. Note: a Mentor can act as a Nominator but not as a Reviewer.

Mentoring: A process by which an appointed mentoring team provides support and guidance to an accreditation body that wishes to apply for provisional status or to become a signatory to the Accord. The mentoring role will focus on providing advice and guidance on the accreditation policies and procedures and education standards of the mentee so that the mentee is given every opportunity, on application, to gain provisional status or become a signatory of the Accord.

Monitoring: The process by which an existing signatory's accreditation system is evaluated by other signatories to ensure that it is still equivalent, as defined by the Accord, to the accreditation systems of other signatories.

Nominator: A signatory that has detailed knowledge of an applicant's accreditation system and states that that in its opinion the applicant's accreditation system meets the criteria for admission to provisional status. In support of its nomination it shall supply other signatories with information on how its appraisal that led to the decision to nominate was performed.

Provisional status: An applicant will achieve provisional status having demonstrated that the accreditation system for which it has responsibility appears to be conceptually similar to those of other signatories of the Accord. By conferring provisional status, the signatories have indicated that they consider that the applicant has the potential capability to be a signatory. Award of provisional status in no way implies any guarantee of becoming a signatory. Recognition of the equivalence of the academic computing and IT-related programs concerned shall normally become effective from the date on which the new signatory is admitted.

Requirements: The requirements for admission as a signatory of the Accord, defined as the substantial equivalence of characteristics, criteria and outcome standards.

Review (or Verification): The process by which an organisation with provisional status is evaluated to determine whether the requirements to be a signatory are met.

Reviewer: A signatory appointed by the Committee to the review team that visits and reports to the signatories on the equivalency of the accreditation system of an organisation with provisional status as part of the evaluation of the applicant's review towards becoming a signatory. Note: A Reviewer shall not have been either a Mentor or Nominator for this applicant. Reviewers recommend to the signatories whether they are of the opinion that the requirements for becoming a signatory are met.

Secretariat: An entity providing administrative support to the Committee, with the delegated authority to give advice, but not to make decisions, under the Rules and Procedures.

Signatory: An organisation entitled to fully participate in the Accord, enjoying the same rights and obligations as all other signatories. Signatories must be independent of the academic institutions delivering programs that they may accredit or recognize. They are typically authorities, agencies or institutions which are representative of the computing and IT-related professions and which have statutory powers or recognized professional authority for accrediting programs designed to satisfy the academic requirements for entry into the professional computing and IT-related community.

2. Admission

2.1 Provisional status

1. Applicants for provisional status are recommended to follow the advice stated in the guidelines given in Part 2 of Section C.

2. Applicants must provide all the information stated in Part 2.2 of the guidelines set out in Section C.
3. Applications must be provided in the English language.
4. Applications must be received by the secretariat no later than 120 days before the commencement of a meeting of the Accord at which the application is to be considered.
5. Applications must be accompanied by written statements of nomination from two signatories, each nomination containing a declaration that the nominator considers that the applicant's accreditation/recognition system meets the requirements for provisional status.
6. The secretariat must distribute the application to all signatories no later than 90 days before the commencement of the Accord meeting at which the application will be considered.
7. Any signatory may provide written questions to the secretariat no later than 60 days before the Accord meeting, in which case the applicant has until 30 days prior to the meeting to provide written answers to the secretariat for distribution of both the questions and answers to all signatories so that they can be considered before the Accord meeting.
8. An applicant's representative must appear in person at the Accord meeting to formally present the application and answer questions.
9. An applicant must meet all the direct costs of making its application, including but not limited to funding any reasonable actions required by potential nominators to evaluate the systems of the applicant.
10. The signatories must consider each application at the meeting at which it is presented and must decide one of the three following actions:
 - a. that the applicant be granted provisional status (provided that there is a two-thirds majority), or
 - b. that the application be declined (in which case reasons would normally be stated), or
 - c. that the decision on the application be deferred (in which case the reasons must be stated).
11. The signatories may agree to consider a deferred application by a suitable meeting method prior to the next scheduled face to face meeting if there is a reasonable expectation that information that will allow the application to be decided will be available, but no such meeting may occur sooner than 60 days after the applicant or a nominator provides the necessary information to the secretariat.
12. Prior to the award of provisional status, applicants must undertake to cooperate in the conduct of, and to fund the direct costs of, an evaluation of the suitability and effectiveness of accreditation/recognition criteria, policies, and procedures established by the applicant for the purpose of becoming a signatory.
13. Provisional status is normally granted for a period of four years, but may be extended for one or more periods of two further years if in the view of signatories, as attested by a two-thirds majority vote at a meeting, sufficient progress towards becoming a signatory is being made.

2.2 Becoming a signatory

1. Organisations holding provisional status and applying to become a signatory are recommended to be cognizant of the guidelines given in Section C.
2. Organisations holding provisional status must give written notice of at least one year (prior to the Accord meeting at which they will request that upgrade of their status be considered) to the Committee and the secretariat of their request to be reviewed.
3. No later than 30 days from receiving a review request the Committee must assign three Reviewers, each drawn from a different signatory.
4. The organisation making the review request must provide the Reviewers with reasonable notice of, and opportunity to observe, visits to a range of education providers, and to observe the accreditation/recognition process for a range of decisions in the period leading up to 90 days prior to the Accord meeting at which the organisation wishes the review request for becoming a signatory to be considered. (More specific guidelines are presented in Part 4 of Section C.)
5. The Reviewers will furnish a written report to the signatories no later than 90 days prior to the Accord meeting at which the review recommendation will be considered, unless a shorter period (of at least 30 days) is agreed by the Committee to be sufficient in the circumstances.
6. The signatories must consider each set of review recommendations at the meeting at which it is presented and must decide one of the four following actions:
 - a. that the organisation holding provisional status be made a signatory with a designated jurisdiction, which requires the unanimous approval of the Accord signatories excluding recusals, in which case the date at which recognition by the other signatories of the academic computing and IT-related programs concerned shall become effective is stated (this would normally be the date on which the new signatory is admitted), or
 - b. that the organization holding provisional status be declined becoming a signatory, but that provisional status be extended for a further period (in which case reasons must be stated), or
 - c. that the organization holding provisional status be declined becoming a signatory and that provisional status not be extended (in which case the reasons must be stated), or
 - d. that the decision on the review recommendations be deferred (in which case the reasons must be stated).
7. During consideration of a review recommendation each signatory which chooses not to support the recommendation from the Reviewers must provide to all other signatories its reasons.
8. When the decision on review recommendations is deferred, the signatories may agree to reconsider the review recommendations by a suitable meeting method prior to the next scheduled face to face meeting if there is a reasonable expectation that information that will allow the application to be decided will be available, but no such meeting will occur sooner than 60 days after the organisation holding provisional status or the Reviewers provides the necessary information to the secretariat.

3. Periodic Monitoring of Signatories

3.1 Rolling monitoring program

1. Each of the accreditation or recognition systems for which a signatory is responsible shall be subject to comprehensive monitoring and report by representatives of the other signatories at intervals of not more than six years. An extension of the interval to the next monitoring of up to three years for a signatory may be approved by the signatories for appropriate reasons, such as to align monitoring cycles with other accords or to delay monitoring because of substantial disruptive events. The initial interval for a signatory agency begins at the end of the meeting at which agency becomes a signatory of the Accord.
2. The Committee must establish and the secretariat publish annually, no later than 1 July, a schedule for the programme of monitoring activities, this schedule covering at least the upcoming six years.
3. Upon receipt of the schedule each signatory must immediately inform the Committee whether it wishes to be monitored by periodic monitoring (designated Procedure A) or by the continuing international participation model (designated Procedure B). In the event that a signatory does not select a procedure then the periodic monitoring procedure is assumed to have been selected. A signatory may select Procedure B only if the availability of at least three accreditation visits for observation by the monitoring team during the fifth year of the interval is unlikely.
4. The type of procedure to be used for any individual signatory must be approved by the signatories via a suitable meeting method prior to the commencement of any monitoring actions.
5. Any signatory that effects a substantial change to its accreditation criteria, policies or procedures is obliged to report such a change to the Committee via the secretariat and thereby to provide the other signatories with the opportunity to require that the scheduled monitoring and report be brought forward.

3.2 Nomination of Persons to Form Teams

1. Upon request from the secretariat, each signatory must provide as soon as possible one or more names of persons to form part of the panel from which Monitoring Teams (Procedure A) or Accord Monitoring Teams (AMTs) under the continuing international participation model (Procedure B) may be drawn. If Procedure B is used, in determining the suitability of proposed team members signatories must note that panel members fulfil a dual role, firstly as accreditation panel members and secondly as Accord monitors. This clause 3.2 1 shall not require any signatory to provide more than one such representative in any calendar year unless approved by the signatory.

3.3 Procedure A

1. Each signatory to be monitored must receive a notice from the secretariat no less than six months prior to the year of the Monitoring Team activities being undertaken.
2. Three representatives from different signatories, one of whom will be designated the team leader, must be selected by the Committee to form the Monitoring Team; the secretariat must take all reasonable steps to ensure that none of the individuals selected through this process has had any substantial prior involvement in or commitment to the accreditation system being monitored.
3. The signatory responsible for the accreditation system to be monitored must be advised by the secretariat of the proposed composition of the Monitoring Team, and invited to show cause why any member of the Monitoring Team is not suitable. In the event that such an objection is lodged, the secretariat must advise the Committee to take such steps as are necessary and appropriate to resolve the situation. If unable to achieve consensus, the Committee must consult all signatories before confirming the membership of the Monitoring Team.
4. The signatory whose accreditation system is to be monitored shall be invited to propose a suitable process, timetable and administrative support mechanism for consideration by the Monitoring Team. The monitoring process must include accreditation visits to educational providers offering academic computing and IT-related programs and to the meetings at which the outcomes of such visits are discussed and decided.
5. All discussions concerning monitoring must be held in confidence by the Monitoring Team. At the conclusion of each monitoring activity, the monitoring team must forward its report and recommendations to the secretariat as soon as reasonably practicable. A copy of that report must be furnished to each signatory through the secretariat.
6. The recommendations open to the monitoring team are as follows:
 - a. that the accreditation/recognition system in question be accepted by the other signatories, for a period of six years, as leading to outcomes equivalent to the signatory's systems known to the monitoring team in preparing graduates to enter a computing or IT-related profession; or
 - b. that the accreditation/recognition system in question be accepted by the other signatories, for a period of not more than two years subject to the responsible signatory providing, within six months, a report which satisfies the other signatories that adequate steps are being taken to address the specific issues identified by the monitoring team; or
 - c. that the accreditation/recognition system in question has serious deficiencies, that the signatory be downgraded immediately to conditional status, and that urgent and specific assistance be provided by the other signatories to help address the deficiencies.

3.4 Procedure B

1. Monitoring will be continuous for the first five years of a six year period, and then, if required, in the sixth year there may be confirmatory actions.
2. The Committee will nominate the signatories from which Accord Monitoring Teams (AMTs) may be drawn, and the secretariat will inform those signatories that they will be required to nominate

persons who can fulfil dual roles as accreditation panel members, and as the Accord Monitoring Team.

3. For each of not less than three accreditation visits within a five year period, where possible to separate educational providers, the signatory being monitored will indicate to the secretariat that it wishes an Accord Monitoring Team (AMT) to be formed for that visit.
4. The AMT will be formed by the Committee and signatory being monitored jointly ensuring that a proportion of accreditation visit panel members but not less than one per visit must be from the panel set up for this purpose. The Committee will designate one of the AMT as the team leader.
5. The signatory being monitored must ensure that at least one of the Accord monitoring teams, in the last two years of the period, meets with the accreditation/recognition agency, reviews the accreditation/recognition procedures with the agency and observes an accreditation/recognition board decision meeting.
6. At least fifteen months prior to the end of the six year period the secretariat will circulate all Monitoring Reports from the previous five year period to all signatories.
7. If no objections to the acceptability of the Monitoring Reports as sufficiently demonstrating equivalence are received by the secretariat twelve months prior to the end of the monitoring period, the accreditation/recognition procedures and practices of the subject organisation shall be deemed to comply and the review is complete. The process will then restart in the next six year review period should Procedure B continue to apply.
8. If any of the Accord signatories are concerned that the Monitoring Reports do not demonstrate satisfactory compliance, they may notify the secretariat at least nine months prior to the end of the review period.
9. The Committee must then appoint an Overall Monitoring Team (OMT) to prepare an overall report. In this case the Committee will identify three international AMT members who have contributed to three different reports on the subject organisation. The secretariat will seek approval from the appropriate Accord signatories for these monitors to be members of the OMT. The OMT should have representation from at least two Accord signatories.
10. The OMT will be presented with written documentation from the organisation being reviewed and be given a copy of all Accord Monitoring Reports in the period and may hold discussions with the leaders of any of the Monitoring Teams. It may observe an accreditation/recognition visit.
11. The OMT will visit the main office of the organisation being reviewed and meet with that organisation's Accreditation/recognition Board within the last year of the six year period to which the continuous review applies.
12. The OMT will prepare a report and recommendations to the secretariat as soon as reasonably practicable. A copy of that report must be furnished to each signatory through the secretariat.
13. The recommendations open to the OMT are as follows:

- a. that the accreditation/recognition system in question be accepted by the other signatories, for a period of six years, (as leading to outcomes equivalent in professional preparation to the systems known to the monitoring team); or
- b. that the accreditation/recognition system in question be accepted by the other signatories, for a period of not more than two years, subject to the responsible signatory providing, within six months, a report which satisfies the other signatories that adequate steps are being taken to address the specific issues identified by the review team; or
- c. that the accreditation/recognition system in question has serious deficiencies, that the signatory revert immediately to conditional status, and that urgent and specific assistance be provided by the other signatories to help address the deficiencies.

3.5 Consideration of Recommendations and Requests for Reconsideration

1. Recommendations from monitoring activities under either Procedure A or Procedure B are considered by the other signatories in committee at a general meeting.
2. If a signatory has demonstrated equivalence under Procedure B to the satisfaction of all signatories without the need to form an OMT, the signatory will be deemed to have had its accreditation/recognition system be accepted as equivalent for a further six year term from the date of the meeting.
3. Otherwise, the signatories may resolve only one of the following:
 - a. that the accreditation/recognition system in question be accepted by the other signatories, for a period of six years; or
 - b. that the accreditation/recognition system in question be accepted by the other signatories, for a period of not more than two years, subject to the signatory in question providing, within six months, a report which satisfies the other signatories that adequate steps are being taken to address specific issues; or
 - c. that the signatory revert immediately to a non-voting conditional status for a period of no more than two years, and that specific requirements to be addressed be stated.
4. A resolution for (a) or (c) shall require support from two-thirds of the signatories, and in the absence of that majority the outcome shall be (b) in which case the specific issues to be addressed must be stated.
5. The subject signatory may, within 60 days of notification of a decision, request reconsideration of a decision imposing conditional status (c), and request independent reconsideration of its case. Requests for reconsideration must be based on one or more of the following grounds:
 - a. that there was a failure to follow these Rules, and/or
 - b. that there were substantial errors of facts in the report considered by the signatories which were likely to have affected the decision reached by the signatories, and/or
 - c. that the report considered by the signatories did not include relevant information, and had that information been placed before the signatories there was a reasonable likelihood that a different decision would have been made.
6. If a reconsideration is requested, the Committee must ensure that within six months of the decision, a reconsideration panel which is established in the same manner as a monitoring

team using Procedure A, but has no membership in common with the original monitoring team(s), is established and reports its outcomes.

7. While a reconsideration is in progress the signatory will continue to enjoy the full benefits of being a signatory.
8. The reconsideration panel shall determine the procedures and criteria under which it operates, but at all times its procedures must be consistent with these Rules and Procedures as far as this is reasonably possible.
9. The full costs of any such reconsideration must be borne by the subject signatory.
10. The right to request reconsideration may be exercised only once.
11. The recommendations of a reconsideration panel must be considered by the signatories by a suitable meeting method as soon as reasonably possible, and one of the following decisions made:
 - a. that the accreditation/recognition system in question be accepted by the other signatories, for a period of six years; or
 - b. that the accreditation/recognition system in question be accepted by the other signatories, for a period of not more than two years, subject to the signatory concerned providing, within six months, a report which satisfies the other signatories that adequate steps are being taken to address specific issues; or
 - c. that the signatory revert immediately to a non-voting conditional status for a period of no more than two years, and that specific requirements to be addressed be stated.

3.6 Upgrade from or Continuation of Conditional Status

1. Where conditional status is imposed by the other signatories the Committee must provide, in writing within 30 days of the decision, the specific requirements to be addressed by the organisation downgraded to conditional status, and state the process by which assessment of whether the requirements have been met will be made.
2. The assessment will normally involve written reports submitted by the organisation holding conditional status at intervals of six months to the Monitoring Team that conducted the periodic monitoring, or OMT in the case of Procedure B, may involve a visit by one or more members of the Monitoring Team or OMT, and will involve reporting by the Monitoring Team or OMT at sixmonthly intervals to the Committee on progress.
3. When, in the view of the Committee, the most recent report from the Monitoring Team or OMT indicates that the requirements have been satisfactorily addressed, the Committee must immediately call a meeting of the signatories by a suitable meeting method to consider the reinstatement of the organization back to being a signatory, and to decide whether graduates from accredited programs during the years in which conditional status was in place should receive rights of recognition under the Accord.
4. In the event of re-instatement to being a signatory, voting rights are immediately restored.

5. In the event that an organisation is re-instated from conditional to being a signatory graduates from accredited programmes in the year in which re-instatement occurs shall enjoy the rights of recognition under the Accord.
6. Where the signatories are satisfied that an organisation holding conditional status is making good progress towards once again being a signatory, but that at the end of the period of conditional status has not fully met the requirements, the signatories may agree to extend the period of conditional status for no more than two further years.
7. The costs incurred by members of the Monitoring Team or OMT must be borne by the organisation holding conditional status.

4. Resignation, Downgrading and Termination

4.1 Resignation

1. A signatory may resign from the Accord by giving at least one year's written notice to all other signatories. The period in which the organization was a signatory will be deemed to end on 31 December of the year after that in which notice was given. During its period of notice the resigning signatory must continue to fulfill its obligations as a signatory, but loses its right to vote on matters related to applications for provisional status, review recommendations for becoming a signatory, monitoring reports on signatories and any matter relating to the changes to the Accord, Rules and Procedures or Guidelines. For the avoidance of doubt, in such circumstances the signatory that has given notice of resignation will be excluded when determining the total number of votes available to be cast.
2. Provided the resigning signatory provides to all other signatories, to the satisfaction of the Committee, a comprehensive list of programmes accredited or recognised during the time as a signatory, graduates of those programmes who graduated during the years that the signatory was active in the Accord will continue to receive the same rights of recognition as graduates of other signatories.
3. An organisation holding provisional status may resign from that provisional status at any time by giving 6 months written notice to all signatories.

4.2 Downgrading for Failure to Demonstrate Ongoing Equivalence

1. Where a signatory has been downgraded from signatory to conditional status for failure to meet the necessary standard of equivalence of recognition or accreditation, and the organisation fails to satisfy the signatories within the period of time allowed that it has met the specific requirements, and the signatories are unwilling to continue the period of conditional status, the organisation shall lapse from conditional status to provisional status.
2. Provisional status shall be granted in these circumstances for no more than two years, the specific time being selected by the Committee so that the end of the term coincides with a

scheduled general meeting of the Accord signatories.

3. Provided the downgraded signatory provides to all other signatories, to the satisfaction of the Committee a comprehensive list of programmes accredited or recognised during the time as a signatory, graduates of those programmes who graduated during the years that the signatory was a signatory in the Accord (including the year in which downgrading to conditional status occurred) will continue to receive the same rights of recognition as graduates of other signatories. Any graduates completing their programme during the period of conditional status will not enjoy the privileges of graduates of Accord signatories.

4.3 Termination for Failure to Meet Obligations as a Signatory

1. If in the view of a two-thirds majority of other signatories, a signatory is failing to meet its reasonable obligations under the Accord, the other signatories may give notice to that effect to the signatory concerned. Such notice must state the specific nature of the concerns.
2. Any signatory that receives notice of failure to meet obligations as a signatory from the other signatories shall have one year from the date of the notice in which to demonstrate that it has taken appropriate action and has recommenced the fulfillment of its obligations.
3. If, after a year, two-thirds of other signatories agree that significant improvement has been made, but not sufficient to remove doubt that the signatory in question is fulfilling its obligations, the period for demonstrating improvement shall be extended by either six months or one year as the signatories may decide.
4. If, in the view of at least two-thirds of other signatories, a signatory that has been given notice under 1, 2 and 3 above has not taken sufficient corrective actions within the specified period the signatory is deemed to have been removed from being a signatory. The date of removal shall be the end of the calendar year in which the decision to terminate was made.
5. Provided the terminated signatory provides to all other signatories, to the satisfaction of the Committee, a comprehensive list of programmes accredited or recognised during the time as a signatory, graduates of those programmes who graduated during the years that the signatory was active in the Accord will continue to receive the same rights of recognition as graduates of other signatories.

4.4 Termination of Provisional Status

1. At each general meeting of the Accord the signatories must review the length of period for which provisional status has been granted to each organization holding that status (which period is normally four years but which may be extended by up to a further four years).
2. If in the view of a two-thirds majority of signatories, an organization holding provisional status is making insufficient progress towards becoming a signatory or is failing to meet its reasonable obligations under the Accord, the signatories may give notice to that effect to the organisation concerned. Such notice must state the specific nature of the concerns.

3. Any organisation holding provisional status which receives notice from the signatories shall have one year from the date of the notice in which to demonstrate that it has taken appropriate action and has recommenced the fulfillment of its obligations and progress towards becoming a signatory.
4. If, after that year, the majority of the signatories agree that significant improvement has been made, but not sufficient to remove doubt that the signatory in question is fulfilling its obligations, the period for demonstrating improvement must be extended by one year.
5. If, in the view of a majority of signatories, determined by a suitable meeting method, an organisation holding provisional status which has been given notice under 2, 3 and 4 above has not taken sufficient corrective actions within the specified period the organisation is deemed to have been removed from provisional status. The date of removal must be immediate from the date of notice to that effect.

5. Conduct of Meetings, Rights of and Obligations on Signatories and Organisations Holding Provisional Status

5.1 Meetings

Unless otherwise set out in the Rules and Procedures, the following provisions shall apply.

1. A general meeting of the signatories must be held every two years at a time and place selected by the previous general meeting, or if not possible, as soon after as possible by the Committee following appropriate consultation with the signatories. The time and place of the general meeting must, so far as practicable, be such as to minimise overall travel costs for those representing the signatories. Where convenient, the general meeting may be arranged to follow or precede a major international conference or similar event.
2. At every general meeting, signatories and organizations holding provisional status must present a report on accreditation-related matters within their jurisdiction according to any guideline agreed by the signatories.
3. At every general meeting, and at any other time the signatories decide, there will be a session closed to observers at which signatories can raise in confidence any issue pertaining to the operation of the Accord, seeking resolution in a constructive manner. Organisations holding provisional status may be invited to attend this session if the signatories agree to this prior to the commencement of the session. The signatories may agree to a set of guidelines for conduct of such sessions.
4. If two or more signatories request a special meeting of the Accord in relation to a particular matter, the question of whether to hold a special meeting shall be decided under urgency, and if so agreed the meeting shall be held at a venue to be decided by the Committee no sooner than 90 days and no later than 180 days after the decision to hold the special meeting is notified to all signatories and organizations holding provisional status.

5. A draft agenda must be circulated to all signatories at least 180 days prior to a general meeting and 90 days prior to a special meeting of the Accord.
6. Notice of items for the agenda should be notified to the Chair through the secretariat at least 90 days prior to the meeting.
7. Items for discussion at a general meeting and all necessary background papers should be submitted to the Committee via the secretariat at least 60 days prior to the meeting. The Committee reserves the right to not admit late items.
8. The agenda and business papers will be approved by the Chair and normally be distributed to the signatories by the secretariat at least two months prior to the meeting.
9. Each signatory will arrange for at least one representative to attend a general or special meeting and will commit to being briefed on the matters to be raised and to engage fully in the business of the meeting. Signatories may bring more than one representative to such meetings but are obligated to restrict the number of people in its delegation to the number reasonably needed to fulfill their obligations to participate fully in the meeting. Notwithstanding this provision, the Chair of the Accord may restrict the number in any delegation.
10. Organisations holding provisional status are required to accept the same commitment to interaction and exchange as the signatories. They will receive copies of appropriate correspondence and reports (other than those papers relating to admission, termination, review requests and monitoring of signatories), and are invited to send representatives to all meetings of the signatories. They are obligated to restrict the number of people in its delegation to the number reasonably needed to fulfill their obligations to participate fully in the meeting. Notwithstanding this provision, the Chair of the Accord may restrict the number in any delegation.
11. At a general or special meeting, each signatory will have one vote, and the Chair shall have a casting vote.
12. A simple majority will suffice for a decision on any matter, unless otherwise specified in the governing Agreement or in these Rules and Procedures. Any casting vote will normally be regarded as cast for the status quo on any matter requiring two-thirds or greater majority.
13. Representatives of organisations holding provisional status will have the right of audience except when excluded under a resolution by the signatories to move into committee (also known as closed session) and debate at such general meetings, but are not permitted to vote.
14. With the agreement of the Chair, organizations with interests in the Accord may be invited to be in attendance (as "observers") for parts of the meeting as may be decided by the Chair. The right to attend does not confer the right to speak unless so invited by the Chair. Unless otherwise prescribed by the Chair the maximum number of people in the delegation of any observer will be three.
15. Signatories and organizations holding provisional status must declare any conflict of interest on any agenda item in advance of that item being discussed, and if so requested by the Chair must leave the meeting during discussion of that item.

16. Minutes of each meeting of the Accord must be recorded by the secretariat and at each meeting the minutes of the previous meeting of a like nature must be submitted to the meeting for approval and then signed by the Chair before any other business is transacted. Draft minutes prepared by the secretariat will be reviewed for correctness by the Committee prior to their dissemination to all signatories for their comment. Such dissemination should occur within 60 days of the meeting and comment should be made within 90 days of the date of the meeting. The Committee will review comments received and within 120 days of the date of the meeting approve that the secretariat circulate to all signatories and organisations holding provisional status "minutes for approval".
17. The meeting method may be varied from face to face to any other means enabling open discussion between representatives (e.g. teleconference) provided that there is a two-thirds majority of the signatories in favour of such a proposal.
18. Urgent matters (decided to be urgent by either a previous meeting, or by the Committee on the basis that undue delay would unreasonably penalize an affected party) may be decided out of session from meetings by an electronic polling meeting method as follows:
 - a. The written proposal setting out the motion, the rationale supporting it, and the reasons for urgent consideration of that proposal are circulated to all signatories in writing.
 - b. Each signatory has 60 days to make a response in two parts – agreeing to consider the matter urgently, and recording its votes on the motion. Votes are to be provided directly to the secretariat and the Committee.
 - c. The secretariat will issue reminders after 30 and 45 days to those signatories who have not responded.
 - d. The matter shall be determined by the Committee as passed if there is the necessary majority for the matter concerned both for the vote to consider the matter urgently, and for the motion itself.
 - e. For the avoidance of doubt, the Committee may require any signatory to provide a faxed signed confirmation of its vote to validate that vote.
 - f. The Committee must announce the result without undue delay, and the outcome will apply from the date of announcement.
 - g. The matter is regarded as ratified by approval of the accuracy of documentation of the decision making process (as if that documentation was minutes of a meeting), by signatories at the next general meeting of the Accord.
19. Any signatory unable to be present may provide to the Chair of the Accord a written proxy either approving or not approving a particular matter. In the event that further changes to the proposal are made during a meeting the Chair must exercise the proxy consistently with the intention of the signatory concerned, and if in doubt must abstain the proxy on the matter.
20. The signatories, organizations holding provisional status and observers are required to meet a fair share of the costs of staging a meeting of the Accord in addition to their own costs for attendance at such meetings.
21. The chair of any meeting may choose to conduct the meeting with a minimum of formality provided that the proceedings are conducive to the fair hearing of all matters and the agreement of outcomes. However if, of his/her own volition or on request of some of those present at the meeting, the Chair deems it necessary to formalize the meeting, he/she may apply some or all of the following standing orders as is considered reasonable and necessary

for effective conduct of the meeting:

- a. At each meeting of the Accord, the Chair, or in his or her absence the Deputy Chair, shall take the chair.
- b. In the above cases if the specified officers are not present a meeting shall elect its own Chair.
- c. Except as otherwise agreed by the meeting the order of business will be as set out on the agenda paper.
- d. Each motion or amendment not seconded shall lapse without discussion and shall not be recorded in the minutes except by the permission of the meeting.
- e. After each motion or amendment has been moved and seconded it shall not be withdrawn without the permission of the meeting.
- f. Except with the permission of the meeting no motion or amendment shall be proposed which in the opinion of the Chair is the same in substance as any motion or amendment which during the same meeting has been resolved in the affirmative or negative.
- g. Where no specific procedure is laid down the Chair shall refuse to accept a motion to rescind any resolution or other vote if he or she considers that insufficient notice has been given to members.
- h. Before putting each motion or amendment to the vote the Chair shall ensure that the motion or amendment is understood by all meeting participants.
- i. A motion may be amended by leaving out words; by leaving out certain words and substituting other words; by inserting words; or by adding words.
- j. Each amendment shall be relevant to the original motion.
- k. No amendment may be accepted that produces a direct negative of the motion.
- l. Amendments to a motion may be moved without notice.
- m. Amendments may be moved in any order considered satisfactory by the Chair.
- n. When an amendment has been carried, such amendment shall become the substantive motion and shall be open to amendment accordingly.
- o. At the discretion of the Chair amendments to an amendment shall be allowed.
- p. The Chair may restrict the number of times and the length of time that each meeting participant may speak on a matter.
- q. All questions of order or procedure not provided for in these Standing Orders shall be decided by the Chair.

5.2 Workshops

1. The signatories of the Accord may choose to hold a workshop at any time for the purpose of dialogue aimed at developing recommendations for consideration at a meeting of the Accord.
2. In general, organizations holding provisional status would be invited to attend only if the signatories consider they can contribute effectively to advancement of the issues to be discussed.
3. Observers would not normally be invited to attend workshops, and an exception would be granted only if the signatories are collectively of the view that observers can contribute effectively to advancement of the issues to be discussed.

4. The Chair shall decide the maximum number in each delegation from signatories to such workshops. In general, delegations should be as small as possible.
5. In the event that organizations holding provisional status are invited to participate, the Chair of the Accord shall decide the maximum number in each delegation and rights of participation.
6. If observers are allowed to attend, the Chair of the Accord shall decide the maximum number in the delegation and rights of participation.
7. During any such workshop, the chair of any session may exclude all but signatories for any particular item.
8. In the interest of effective interchange at workshops, the protocols and procedures will be consistent with these Rules and Procedures, but decision making will be by consensus. No votes will be taken, but informal polling to determine the level of support for particular proposals may be performed.

6. Changes to Accord Agreement, Rules and Procedures, and Guidelines

6.1 Changes to Accord Agreement

1. Changes to the Accord Agreement requires the unanimous approval of all signatories, originally determined by a vote, but then signified by the written signature of their representative to a document to be regarded as an addendum to the Accord. Until all signatories present at the time of the vote have signed in this manner the change shall be inoperative. Signatories voting by proxy may sign at a later time and this will not delay the implementation of the change.
2. Proposals for change may be made by one or more signatories, but must be provided to the Committee and secretariat in full at least 120 days in advance of the meeting at which they are to be discussed. The secretariat must circulate the proposals to all signatories and those organizations holding provisional status at least 90 days prior to the meeting.
3. If further changes to the proposal are proposed during a meeting of the Accord, and if in the view of at least two signatories the changes affect the intention or substance of the proposal, any signatory may require that the matter be deferred, requiring a further 120 days notice before the matter can be further considered.
4. Any signatory unable to be present may provide to the Chair of the Accord a written proxy either approving or not approving the proposed change. In the event that further changes to the written proposal are suggested a written proxy will be declared as a vote against the further changes.

6.2 Changes to Rules and Procedures

1. Changes to the Rules and Procedures of the Accord requires the two-thirds majority approval of all signatories, determined by a vote. The new Rules and Procedures will be deemed to be operative immediately following the end of the meeting at which they are approved. Notwithstanding this, for matters in progress that commenced under earlier Rules and Procedures may continue to proceed to completion under those Rules and Procedures if in the view of the Committee application of the changed Rule or Procedure would impose unreasonable additional burdens on those affected by the matter.
2. Proposals for change may be made by one or more signatories, but must be provided to the Committee and secretariat in full at least 120 days in advance of the meeting at which they are to be discussed. The secretariat must circulate the proposals to all signatories and those organizations holding provisional status at least 90 days prior to the meeting
3. If further changes to the proposal are suggested during a meeting of the Accord, and if in the view of at least two signatories the changes affect the intention or substance of the proposal, those signatories may require that the matter be deferred, requiring a further 120 days notice before the matter can be further considered.
4. Any signatory unable to be present may provide to the Chair of the Accord a written proxy either approving or not approving the proposed change. In the event that further changes to the written proposal are suggested a written proxy will be declared as a vote against the further changes.

6.3 Changes to the Guidelines

1. Changes to the Guidelines of the Accord requires the two-thirds majority approval of all signatories, determined by a vote. The new guidelines will be deemed to be operative immediately following the end of the meeting at which they are approved. Notwithstanding this, for matters in progress that commenced using earlier guidelines may continue to proceed to completion using those guidelines if in the view of the Committee application of the changed guideline would impose unreasonable additional burdens on those affected by the matter.
2. Proposals for change may be made by one or more signatories, and should be provided to the Committee and secretariat in full at least 120 days in advance of the meeting at which they are to be discussed. The secretariat must circulate the proposals to all signatories and those organizations holding provisional status at least 90 days prior to the meeting
3. Further changes to the proposal may be suggested during a meeting of the Accord, and may be approved by a two-thirds majority of signatories voting for the changes.
4. Any signatory unable to be present may provide to the Chair of the Accord a written proxy either approving or not approving the proposed change. In the event that further changes to the written proposal are suggested a written proxy will be declared as a vote against the further changes.

6.4 Voting

1. Matters on which a required majority is not stated in the Accord Agreement or Rules and Procedures must be decided by a simple majority vote of signatories present at the time of the decision.
2. A casting vote by a chair shall be deliberative in situations where only a simple majority is required, but in situations where a majority of two-thirds or more is required the casting vote must be made to retain the status quo.
3. Voting may be by a show of hands unless a secret ballot is required. In addition to the requirements of the Rules and Procedures, a secret ballot is required whenever requested by a signatory of the accord.

7. Officers

1. The officers of the Accord shall be the Chair and the Deputy Chair who must be elected from nominations made by the signatories.
2. The officers act for the Accord, and may not simultaneously represent or vote on behalf of any signatory on any matter. For the avoidance of doubt, officers are not included in the headcount of delegations from their home signatory.
3. A person may hold office for no more than two terms, each term of two years (defined as the time between biennial general meetings) unless specifically agreed by a unanimous vote of all signatories present at a general meeting. A term is completed at the end of the general meeting at which an election is held.
4. The Deputy Chair shall undertake the duties of the Chair if the Chair is unavailable for any length of time, or has declared a conflict of interest on any matter, and has temporarily stood down from the chair whilst that matter is considered.
5. At least 120 days in advance of a general meeting, the secretariat will send all signatories the invitation to make nominations for Chair and Deputy Chair positions.
6. To be eligible for nomination a person must be affiliated with a signatory and have the support of that signatory. By supporting a person affiliated with a signatory, the signatory agrees to pay the expenses of the nominee, if elected, to attend meetings of the Accord.
7. Nominations must be moved and seconded by two different signatories, and the nomination, second, and acceptance by the nominee and the nominee's signatory must be received by the secretariat no later than 30 days prior to the general meeting at which the election will be held. The secretariat will distribute the nominations to the signatories no later than 20 days before the general meeting at which the election will be held.
8. No person may be elected to a position that was immediately before held by a person affiliated with the same signatory.
9. Voting will be held by secret ballot during a general meeting, and will be supervised by two independent scrutineers appointed by the general meeting.

10. In the event that there are more than two candidates and no candidate achieves more than 50% of the votes cast in the ballot, the lowest polling candidate will be eliminated and a further poll held. This process will be repeated as many times as is necessary. In the event of a tie in respect of eliminating a candidate the candidate to be eliminated will be established by the drawing of lots by the scrutineers. In the event of a tie on the last poll the Chair will exercise a casting vote.
11. In the event that the Chair is unable to complete his or her term for any reason, the Deputy Chair shall temporarily hold the position until the next general meeting. Such service shall not be counted against the term of that person in the role of Chair.
12. In the event that the Deputy Chair is unable to complete his or her term for any reason, the Chair shall decide whether the position may remain vacant (if the remaining part of the term is less than 180 days), or whether to call for nominations, and hold an election using the process for deciding matters under urgency. Service of a person elected under urgency shall not be counted against the term of that person in the role of Deputy Chair.
13. If required, elections may be conducted urgently as follows:
 - a. The ballot papers must be distributed to all signatories in writing.
 - b. Each signatory has 60 days to record its vote. Votes are to be provided directly to the secretariat.
 - c. The secretariat will issue reminders after 30 and 45 days to those signatories who have not responded.
 - d. For the avoidance of doubt, the Committee may require any signatory to fax a signed confirmation of its vote to validate that vote.
 - e. The secretariat shall be responsible for counting the votes and arranging scrutineering by at least two independent persons.
 - f. The Chair must announce the result without undue delay, and the outcome will apply from the date of announcement.
 - g. The matter is regarded as ratified by approval of the accuracy of documentation of the decision making process (as if that documentation was minutes of a meeting), by signatories at the next general meeting of the Accord.

8. Accreditation/Recognition Outside of Jurisdiction

Normally the accreditation/recognition of programs offered by a provider in a jurisdiction of an Accord signatory will be the responsibility of an Accord member for the jurisdiction. However, allowed exceptions and modifications of this guideline are defined below.

1. **Program implemented without differentiation in two different jurisdictions, each with accrediting/recognition bodies that are signatories to the Accord:**

Accreditation/recognition of the program offered outside the program headquarters jurisdiction will be undertaken on a collaborative basis, initiated by the signatory of the jurisdiction in which the program is headquartered. The program implementation not in the program headquarters jurisdiction must satisfy the accreditation/recognition criteria and requirements of both signatories.

2. **Different programs implemented in two different jurisdictions, each with accrediting/recognition bodies that are signatories to the Accord:**
Accreditation/recognition of the program outside the program headquarters jurisdiction must be undertaken by the signatory of the jurisdiction in which the program is delivered in consultation with the signatory of the jurisdiction in which the provider is headquartered. The program outside the program headquarters jurisdiction may also be undertaken by the signatory in the headquarters jurisdiction at the request of the provider.
3. **Program offered within a non-Accord jurisdiction by a provider headquartered in an Accord jurisdiction:**
Accreditation/recognition of the program must be undertaken by the signatory of the jurisdiction in which the program is headquartered. Accreditation/recognition by additional Accord signatories may be undertaken at the request of the provider in collaboration with the signatory of the headquarters jurisdiction.
4. **Program offered within a non-Accord jurisdiction by a provider headquartered in a non-Accord jurisdiction:**
Accreditation/recognition of the program may be undertaken by any signatory as requested by the provider. Approval of the relevant jurisdiction authority should be obtained before undertaking the accreditation/recognition process.
5. **Program offered within an Accord jurisdiction desiring accreditation/recognition by an Accord signatory in another jurisdiction:**
The program must first be accredited/recognized by an Accord signatory in the program's jurisdiction. Additional accreditation/recognition by other signatories may be undertaken in collaboration with the jurisdiction signatory by request of the provider and approval of the jurisdiction signatory.

For each of the defined exception cases, the signatory undertaking international accreditation/recognition must observe the sovereignty of the jurisdiction in which the program is delivered, ensuring compliance with the statutory requirements of that jurisdiction.

9. Secretariat

1. The signatories shall appoint an organisation, normally affiliated with a signatory, to provide a secretariat for the Accord. (This organisation shall be referred to as the provider of secretariat services.) Upon request by the provider of secretariat services or if desired by the signatories, a new provider of secretariat services will be appointed.
2. The secretariat has no decision making power, but acts in the best interests of the Accord by faithfully implementing the Procedures and Rules and the Guidelines, including referring matters to the Chair or Committee for decision.
3. The secretariat must maintain a record of the deliberations and decisions at each general or special meeting, must facilitate and record exchanges of information between the signatories, maintain a relevant website, and must seek to advise signatories and others as to the policies and procedures to be adopted to give effect to the terms of the Accord.

4. The secretariat will be paid a fee for the provision of a schedule of services that may be agreed from time to time by a general meeting of the Accord.
5. The performance of the secretariat will be monitored by the Committee to ensure that the secretariat serves the Accord effectively and in good faith.

10. Contribution to Costs

1. The general principle that underpins the Accord is that signatories, organisations holding provisional status and those expressing interest in the Accord should be responsible for meeting their own costs of becoming involved, and then maintaining their involvement.
2. Signatories are expected to make reasonable and equitable (taking into account the resources available to the signatory and its size) contributions of staff or volunteer time, without charge, for participation in the affairs of the Accord including, but not limited to, participating in meetings, correspondence and submissions on issues, development of policies and procedures, provision of people to undertake review and monitoring visits, and mentoring.
3. Assessed on a long term basis, all signatories and those holding provisional status are expected to make fair contributions to the costs of operating a secretariat.
4. Prospective and actual signatories and those seeking or holding provisional status are expected to meet the direct costs (e.g. travel, accommodation, meals) of those involved in processes required or recognised (e.g. mentoring) under this Accord for gaining or maintaining either signatory or provisional status.
5. Such costs shall be reimbursed via the organisations with whom the person is affiliated or, with the agreement of the organisation, directly to the person.
6. Arrangements shall be made by the host acting in agreement with the person travelling.
7. The cost basis shall be that air travel may be by economy class except that flights exceeding 8 hours duration shall be by business class, and that accommodation shall be at least fully serviced 3 Star plus to 4 Star level.

Section C – Guidelines

1. Computing and IT-related Programs Within the Scope of the Accord

A separate document, *Seoul Accord Graduate Attributes*, describes the profile of graduates of the computing and IT-related programs within the scope of the Seoul Accord. The attributes document may be modified from time to time as deemed important according to the procedures for modifying Guidelines specified in the Rules and Procedures.

2. Applying for Provisional Status

2.1 Preliminary Steps Prior to Making Application

1. An applicant wishing to become a signatory should first contact the secretariat.
2. The secretariat will provide the necessary documentation on procedures and will invite the applicant to provide preliminary documentation on its accreditation/recognition system. The applicant will be informed that a mentoring service is available should they want to make use of it.
3. The secretariat will provide the preliminary documentation to the Committee for evaluation. If in their opinion it does not appear to be compatible with the Requirements, the Committee will advise the applicant that its system differs from the Requirements in certain fundamental respects (to be indicated) and determine whether the applicant wishes to undertake the major development work and pursue its application further when it believes the issues identified have been addressed.
4. If the documentation appears to the Committee to be compatible with the Requirements and, if it is the wish of the applicant, the Committee may assign a team of two or three signatories to act as Mentors to assist the applicant in progressing towards provisional status.
5. When the applicant chooses to proceed with its application for Provisional status, having worked or not with mentors, it will request two of the existing signatories to act as Nominators.
6. When potential Nominators consider the applicant's accreditation/recognition system approaches and has the potential to achieve the Requirements, they should inform the applicant that they are prepared to act as Nominators.
7. There is no obligation on applicants to ensure that all signatories are familiar with the applicant's accreditation/recognition system. However, in addition to the nominators up to three further signatories should have had the opportunity to become familiar with the accreditation/recognition system prior to consideration of the application.

2.2 Documentation in Support of Applications

The applicant must meet all the requirements set out in the Rules and Procedures (Section B). The documentation provided on the accreditation/recognition system should include the following sections:

- I. ACCREDITING/RECOGNISING ORGANIZATION
Provide the name of the organization. List the names of the officers of the organization with brief CVs. Define the applicable jurisdiction for the organization, and describe the affiliations of the organization with other computing and IT-related bodies, government, and industry within the jurisdiction.
- II. INTRODUCTION
Provide general information about the jurisdiction and the context of computing and IT.
- III. EDUCATION
Provide a description of primary, secondary, and tertiary education. Describe the nature of programmes, including admission standards. Provide the number and type of institutions offering computing and IT-related programmes. Indicate whether the institutions are public or private.
- IV. STRUCTURE OF THE COMPUTING AND IT-RELATED COMMUNITY
Describe the context of computing and IT-related practice and the degree of regulation (i.e., registration or licensing). Describe if there is a protected title and scope of practice. Describe any differing categories of computing and IT-related practitioners and their academic requirements. Describe the relationship of the organization to licensing, registration, or certifying agencies, and the extent to which the organization can influence the acceptance of accreditations/recognition by those agencies.
- V. ROLE OF ACCREDITATION/RECOGNITION
Describe the role of accreditation/recognition within the jurisdiction. Given that accreditation is normally voluntary, describe the degree of participation.
- VI. ACCREDITATION/RECOGNITION SYSTEM
Describe the development of the accreditation/recognition system and its maturity. Provide a description of the accreditation/recognition board including its composition and authority. List the objectives of accreditation/recognition. Provide the criteria for accreditation/recognition (general, program specific; curriculum content – technical and non-technical; incorporation of practical experience; length of the program; naming of the program; faculty requirements). Provide details for conducting the accreditation/recognition evaluation and making the accreditation/recognition decision; include relevant documentation (initiation of visit; selfevaluation questionnaire; selection of evaluation team; organization of the visit; due process). Provide a list of currently accredited/recognised programs and a schedule of upcoming evaluations. Describe relationships with external computing and IT-related organizations including any agreements.

2.3 Guidelines to Assist in Evaluation of Applications

Assessing equivalence of professional preparation is a complex matter. The experience of the existing signatories is that an assessment based on documentation is only a first step – necessary but not sufficient. Confidence can be achieved only through a detailed evaluation, including close interaction and planned visits to observe accreditation/recognition procedures.

In particular, it is difficult to define on paper the standard to which graduates must be able to exercise the required attributes. The same words can embrace a wide range of standards. Documentation can describe criteria and procedures; but standards can be reliably judged only by experienced people through live interaction. Therefore applicants must give the opportunity for the nominators, and some other signatories, to be present at key decision points where the quality of student learning is evaluated against accreditation/recognition criteria.

Ultimately, the applicant must demonstrate that the level and content of the studies of accredited/recognised programmes are equivalent to those of the current signatories in preparing graduates to enter a computing or IT-related profession. Therefore, the program must be offered at an appropriate tertiary-level institution. The duration of academic formation will normally be at least sixteen years.

Accreditation/recognition systems should adhere to the following general characteristics:

1. The signatories to the Accord are authorities, agencies, or institutions that are representative of the computing and IT-related community and that have statutory powers or recognized professional authority for accrediting/recognition programs designed to satisfy the academic requirements for professional computing and IT-related practice within a defined jurisdiction (e.g. country, economy, geographic region).
2. Any such authority, agency or institution must be independent of the educational providers delivering accredited programs within their jurisdiction and should also be free from influence or control over accreditation/recognition decisions by other organizations.
3. An accreditation/recognition system must be in place with well-documented accreditation/recognition procedures and practices. Accreditation/recognition of programmes is expected to conform to generally accepted principles such as:
 - a. The system must operate at all times in accordance with high standards of professionalism, ethics and objectivity;
 - b. The process must be transparent and consistent and the activities in relation to individual programs must be conducted in confidence;
 - c. Those involved in the accreditation/recognition process must have access to knowledge and competence in matters related to computing and IT-related accreditation/recognition, computing and IT-related education and computing and IT-related practice.
 - d. Accreditation/recognition is of individual programmes or of coordinated groups of programmes quality-assured as a whole.
 - e. Evaluations of programs are conducted by peer reviewers and include a self-evaluation and site visit.
 - f. The criteria for accreditation/recognition should include requirements for:
 - i. a suitable environment to deliver the program;
 - ii. adequate leadership for the program;
 - iii. suitably qualified computing and IT-related professionals teaching in the program;

- iv. a curriculum providing a broad basis for computing and IT-related practice;
 - v. appropriate entry and progression standards;
 - vi. adequate human, physical and financial resources to support the program.
- g. The process should include periodic re-evaluation to maintain accreditation/recognition status.

3. Mentoring

Accord members, when requested by the secretariat, are willing to provide support, advice, and guidance through a mentoring system to jurisdictions that are anticipating making formal application for provisional or full member status to the Accord.

3.1 Principles

1. It is up to each organisation to decide whether they would like to participate in the Accord mentoring process.
2. Organisations must formally request the Committee to appoint mentors by lodging a request with the secretariat.
3. Mentoring relationships are set up for a set purpose and for a set period of time. The purpose and time period should be negotiated between the mentee and the mentor and approved at their first meeting.
4. Mentoring is separate from the processes of applying for provisional status or review for becoming a signatory. Having participated in a mentoring relationship will not guarantee a mentee successful admission to the Accord either at the level of holding provisional status or becoming a signatory.
5. Mentors are acting on behalf of the Accord. They must perform their duties in a professional and timely manner and must keep the Committee informed of the agreed terms of reference of the mentoring relationship, when and what mentoring activities have been undertaken.
6. The advice provided by the mentor is confidential to the mentee, mentor and the mentor signatories.
7. There will be free and unfettered disclosure to each other by both the mentor and the mentee.

3.2 Appointment of Mentors

1. On receipt of a formal request from an organisation for mentoring, the Committee will allocate two or three signatories that will each be expected to identify an appropriate person to represent them on the mentoring team. Each representative must be knowledgeable of the accreditation/recognition systems and computing and IT-related education standards within

their own jurisdiction.

2. When allocating mentor signatories the Committee will take cognizance of the size of the organisation to mentored. There should be at least one representative on the mentoring team whose home organisation is of comparable size and composition. Cognizance should also be taken of the geographical closeness of the mentor signatories to the organisation to be mentored.

3.3. Reporting

1. Mentor to mentee. Mentors may advise the mentee verbally and in writing. The advice is confidential to the mentors, the mentee and the mentors' own organizations. The report must be able to be discussed by the mentors with the accreditation/recognition approval board within their home organizations for quality assurance to ensure consistency of approach.

The report may be released only by the mentor signatories, to third parties, including the Committee, by permission of the mentee.

An accreditation/recognition body seeking provisional membership that has been mentored may include mentoring reports in the written information they provide to demonstrate that their accreditation/recognition systems and standards are substantially equivalent to those of other signatories.

2. Mentor report to Accord signatories. Mentors will provide the secretariat with an annual report to be distributed to signatories stating:
 - a. the agreed terms of reference of the mentoring relationship;
 - b. the facts of mentor visits to the organisation of the mentee (e.g., dates of visits, activities undertaken during the visit);
 - c. a general statement as to progress toward provisional or full member status.

3.4 Consultants

Accreditation/recognition bodies sometimes contract the services of a consultant to provide them with support in the development of accreditation/recognition systems and qualification standards. These consultants are paid a fee for their services and are not recognised as representatives of the signatories of the Accord. If a professional/ accreditation/recognition body chooses to contract the services of a consultant they must do so at their own risk. If a signatory is providing consultancy support to an accreditation/recognition body it must inform other signatories of the relevant Accord so as to declare any pecuniary interest.

3.5 Mentoring provided by individual signatories

Accreditation/recognition bodies often approach signatories directly to request support through a mentoring arrangement. If signatories accept this request then they must inform the secretariat so that other signatories are made aware of the private mentoring arrangement. The Accord, as a whole, cannot be responsible for the quality of advice and support provided through this private mentoring arrangement, which has not been approved by the Committee nor coordinated through the secretariat.

4. Applying to Become a Signatory

1. During the period of Provisional status, it shall be open to all signatories to visit the applicant at their own cost, but this is not a requirement nor part of the review process.
2. As stated in Section 2.2 of the Rules and Procedures, when the applicant requests, the Committee will assign three signatories as Reviewers to examine and report on the applicant system and to recommend to the signatories, when they are satisfied that the requirements for becoming a signatory are met.
3. The Reviewers will normally evaluate the systems of the applicant in a similar fashion to that stipulated as Procedure A for the conduct of a periodic review visit of an existing signatory. However, the review process may be modified as appropriate for applicants that can document an evaluation by an external body that meets the expectations of the Accord reviewers. Such modification will normally be limited to applicants that are signatories of similar accords.
4. In addition to the criteria set out in Procedure A, the Reviewers must consider whether
 - a. the accreditation/recognition system is well established (normally with at least one program having gone through a full accreditation/recognition cycle and being reevaluated) and
 - b. a substantial proportion of its programmes offered have been evaluated under the system as described.
 - c. organisations holding provisional status may seek guidance from their mentors (if any) and the Committee as to how soon during their granted period of provisional status they might apply for review.
5. The Reviewers must ensure that they observe visits to a representative cross-section of institutions, and also observe the accreditation/recognition process for a range of decisions, unless there is documentation of such observation by an appropriate external body, such as reviewers from a similar accord, providing sufficient information for a recommendation by the reviewers.
6. The expected characteristics of an accreditation/recognition system and criteria for accreditation/recognition, including the attributes expected of computing and IT-related graduates, are set earlier in Section C. If an applicant's system appears on paper to be substantially equivalent to those of the Accord, tests of the system in operation might then be:
 - a. Is the accreditation/recognition system similar in methods and means of delivery to the systems of other signatories? Performance indicators/key attributes:
 - Has a clear definition of academic quality in the context of its mission.
 - Is non-governmental.
 - Accredits/recognises programs at institutions that have legal authority to confer higher educational degrees/qualifications.
 - Has official, written policies and procedures that are available to the institutions and to the public.
 - Has a process that includes a self-evaluation by the institution and the program seeking accreditation/recognition.
 - Has an on-site review by a visiting team comprised of peers.
 - Demonstrates independence from any parent organization or entity in its policy-setting and decision-making process.

- Requires a periodic review of accredited/recognised programs.
 - Publishes or makes available to the public a list of accredited/recognised programs.
- b. Is there a clearly defined and published scope of activity for the organisation? Performance indicators/key attributes:
- What degree programs/qualifications are recognized (undergraduate, graduate)?
 - Are there geographic bounds?
 - What disciplines (computing, engineering, etc.) and computing and IT-related sub-disciplines (computer science, information systems, information systems, informatics, etc.) are recognized?
- c. Does the organisation demonstrate the use of appropriate and fair procedures in decision making? Performance indicators/key attributes:
- Is the organisation subject to interference from professional organisations, societies, special interest groups or government?
 - Within the accrediting/recognising organization, is there a separation of those who establish accreditation/recognition policy and those who make accreditation/recognition decisions?
 - Has written standards, criteria, policies and procedures for the evaluation of programs.
 - i. Are these publicly available?
 - ii. Is there a process for public comment or review?
 - Accreditation visits are conducted in accordance with the documentation.
 - Applies standards and criteria in a consistent and fair manner from institution to institution, program to program and year to year.
 - Provides a written report to the institution that clearly distinguishes between actions required for accreditation/recognition and actions recommended for academic program improvement.
 - Visit reports provide sufficient detail for the accreditation/recognition board (or equivalent) to make informed decisions whether or not to accredit particular programs, or to impose conditions.
 - The board demonstrates a capacity to make difficult decisions in a way likely to be beneficial to the computing and IT-related community in the longer term.
 - Has a process for appealing adverse accreditation/recognition decisions.
 - Has a clear conflict of interest policy for all involved in the accreditation/recognition process including visiting teams, accreditation/recognition decision-makers and policy-makers.
 - Are the procedures capable of addressing unusual circumstances in a perceptive way, and is this illustrated in practice?
- d. Does the organisation have the capacity to conduct accreditation/recognition activities on an ongoing basis? Performance indicators/key attributes:
- Has sufficient staff and financial resources to conduct and sustain an effective accrediting/recognising process.
 - i. How is the organisation financed?
 - ii. What is the outlook for financial viability?

- Has an effective process for the recruitment, selection, training & evaluation of program evaluators/visitors.
 - i. How are evaluators selected?
 - ii. Are there written training materials?
 - iii. What is process for evaluation?
 - iv. Does the visiting team pool include computing and IT-related practitioners as well academicians?
 - Conducts periodic self-review to improve its standards, criteria, policies and procedures.
- e. Does the operating documentation focus attention on the fundamental criteria for accreditation/recognition? Performance indicators/key attributes:
- The required graduate attributes are documented in a way that is clearly evident to the educational provider concerned, and the required attributes are substantially equivalent to the Accord exemplar.
 - The criteria translate into procedures that evaluate in depth the outcomes of each program and how they are assured.
- f. Ultimately, as an overarching test, is the outcome standard, as evaluated by existing signatories during live observation and interaction, consistent with that represented by the Accord?

5. Periodic Monitoring

5.1 Procedure A: Periodic Monitoring

1. Monitoring teams must embody a range of expertise and should include at least one academic and one industrial representative. According to the Accord Rules and Procedures, the Committee must select at least three members for the Monitoring Team and normally at least two will physically take part in the visit.
2. In selecting the Monitoring Team, the Committee as well as the secretariat must be cognizant of any activities that may impede individuals from participating due to conflict of interest.
3. The chair of the Monitoring Team must be appointed by the Committee at the time of notification of the team composition.
4. Confirmation of equivalency should be based on visits to at least two educational providers including a total of at least four programs undergoing evaluation. In addition, at least one team member shall attend a meeting of the accreditation/recognition board or other body responsible for final accreditation/recognition actions.
5. Design of a typical visit: In order to make most efficient use of time and to ensure timely production of the report, the following procedures should be adopted:
 - a. A copy of the most recent monitoring report will be made available to the monitoring team.

- b. The monitoring team should meet one day prior to the first visit to review data, determine aspects to be examined in more detail, outline the report structure, allocate individual team member responsibilities and meet with the host signatory to obtain background information and clarify the accreditation/recognition systems and the visit programme.
 - c. The visit or visits accompanying the accreditation/recognition panels shall take place in accordance with the protocols below.
 - d. A post-visit team meeting to structure the report and if possible prepare it in outline.
 - e. The monitoring team should visit the headquarters office of the agency administering the computing and IT-related accreditation/recognition process.
 - f. The monitoring team should return to observe the decision making meeting of the accreditation/recognition agency unless the team determines that such a visit shall be made only by the team chair.
6. In general the protocols to be observed by the monitoring team during the visit should be:
- a. The team should be non-participatory observers.
 - b. The team should refrain from making comments on the procedures or outcomes during the visits and only comment to the accreditation/recognition panel when requested to do so, after visits have been concluded and the intended recommendations made known to the universities concerned.
 - c. When necessary and in order to achieve complete coverage the team should split to accompany accreditation/recognition sub-panels according to the individual specialization of the team members.
 - d. The team may participate in the discussions with students as their questions in these forums may assist the team to understand the educational culture and student perceptions. This is judged to not unduly influence the accreditation/recognition process.
 - e. A draft team report must be submitted to the accreditation/recognition agency being reviewed to ensure correctness as to matters of fact.

5.2 Procedure B: Continuous Monitoring

There are no additional guidelines applying to Procedure B.

5.3 General protocols applying to both procedures

1. Protocols to be observed for non English speaking organisations where the monitoring team members are not fluent in the language of the jurisdiction being reviewed:
 - a. English translations shall be provided of the key parts of the pre-visit documents for each visit that is to be observed and must include sufficient information for the observers to become familiar with the observed institutions, programs, and visiting teams.
 - b. For Procedure A: Periodic Monitoring, a single translator at each visited program shall be provided. The selection of translators is an important issue. The accreditation/recognition organization being observed should be responsible for that selection, but should select individuals who, in addition to having good language skills and a knowledge of the accreditation/recognition process, agree to hold a neutral position with regard to the observation process.

- c. When multiple programs are to be observed at the same institution, it is recommended that the monitoring team remain as a group with their translator, but that they timeshare their participation among the multiple visiting panels.
 - d. For Procedure B: Continuous Monitoring, translators must be provided for each panel on which there is an international monitor.
- 2. At the conclusion of a visit to a given signatory, the Monitoring Team shall prepare a report with recommendations for the secretariat that, in turn, shall be distributed to the other signatories. For Procedure A in all cases, and in Procedure B in cases when an Overall Monitoring Team was appointed, the report shall be submitted no less than 90 days prior to the next biennial meeting of the Accord signatories.
- 3. The Final Report shall include:
 - a. An executive summary outlining major system characteristics and citing recommended action with the appropriate action statement.
 - b. An overall introduction to the accreditation/recognition system under review and its standards.
 - c. Information on accreditation/recognition policies/procedures and criteria for the system under review, including a comprehensive analysis of how the accreditation/recognition process addresses marginal, difficult conditional actions.
 - d. A brief description of the educational provider and a listing of the programmes and results in order set the context for the review.
 - e. Information on the conformity of the system with its own published accreditation/recognition policies and procedures.
 - f. Indications of any stated or observed substantial change to the accreditation/recognition criteria, policies or procedures of the system under review and the rationale for the change.
 - g. A statement as to whether the standard of the graduates of accredited/recognised programs are equivalent to graduates of other Accord signatories in preparation for a computing or IT-related profession.
 - h. Any statement of weakness or deficiency. A *weakness* indicates that the accreditation/recognition system is satisfactory but lacks the robustness that assures that the quality of the system will not be compromised prior to the next general review. A *deficiency* indicates that the processes, policies and procedures for granting accreditation/recognition to programmes have been examined and found not to be equivalent to comparable practices of other signatories that assess the quality of programmes. This action changes the signatory's status to that of conditional as defined in Part 1 of Section B.
 - i. Recommended action to the Accord signatories in accordance with Part 3.6 of the Rules and Procedures.
- 4. Review reports may not be communicated to any signatory except through the secretariat except that the draft reports may be submitted by the reviewers to their home organisations for the purposes of quality assurance and advice and to the agency being reviewed, but solely to ensure factual accuracy.
- 5. In Procedure B, the OMT Report shall additionally focus on the remedial actions taken by the signatory to address the deficiencies or weaknesses cited by the earlier Monitoring Teams and shall be submitted to the secretariat.

6. Conditional status of a signatory means that:
 - a. the signatory must upgrade its policies and procedures to meet the Accord requirements within a specified period.
 - b. the monitoring report will specify what further report or visit will be required to confirm the satisfactory upgrading of policies and procedures.
 - c. these reports shall be received before the end of the defined period.
 - d. graduates who complete academic degrees during the period of conditional status will not be recognized.
 - e. the status as a signatory will be revoked unless the upgrading requirements are met.

6. Fulfilment of Accord Obligations

6.1 Bi-Annual Reporting by Signatories

1. The Accord places obligations on signatories, including that signatories will make every reasonable effort to ensure that the bodies responsible for registering or licensing members to practice in its jurisdiction accept the equivalence of programs accredited by the signatories to the Accord.
2. Accordingly, at each biannual meeting of the Accord, each signatory is required to submit a written report on fulfilment of its obligations. This report must be submitted to the secretariat at least 90 days prior to the meeting. The report shall include:
 - a. Updated contact information
 - b. Updated key personnel
 - c. Updated accreditation/recognition information
 - i. Any changes in the scope of accreditation/recognition
 - ii. Changes in accreditation/recognition standards/criteria
 - iii. Number of currently accredited/recognised programs (as of 30 June in the year of the bi-annual meeting)
 - iv. Number of other accredited programs to which Accord recognition does not apply
 - v. Overview of the accreditation/recognition visit programme – frequency of visits and scope of programme for the next six years (comprehensive and provisional accreditation/recognition)
 - d. Any recent major activities
 - e. Any changes in operating environment
 - f. Updated statement of fulfilment of signatory obligations to other signatories
 - i. Any changes in the structure of the licensing/registration/regulatory system for provision of computing and IT-related services within the jurisdiction of the signatory
 - ii. Changes in the licensing/registration/regulatory/membership bodies
 - iii. Changes in the relationship of the signatory with the relevant licensing/registration/regulatory/membership bodies
 - iv. Credit given to graduates of programmes accredited/recognised by the signatory in the licensing/registration/regulatory/membership processes within the jurisdiction

- v. Credit given to graduates of other Accord signatories in the licensing/registration/regulatory/membership processes within the jurisdiction
- vi. A copy of a statement that can be widely publicised by other signatories stating the level of recognition that the relevant licensing/registration/regulatory/ membership bodies are presently providing to graduates of programmes of other signatories
- g. The experiences of graduates of programmes accredited by the signatory in seeking recognition of their computing and IT-related education within the jurisdictions of other signatories.

6.2 Bi-Annual Reporting by Organizations Holding Provisional Status

1. At each biannual meeting of the Accord, organizations holding provisional status are required to submit a written report. This report must be submitted to the secretariat 90 days prior to the meeting. The report shall include:
 - a. Updated contact information
 - b. Updated key personnel
 - c. Updated accreditation/recognition information
 - i. Any changes in the scope of accreditation/recognition
 - ii. Changes in accreditation/recognition standards/criteria
 - iii. Number of currently accredited/recognised programs (as of 30 June in the year of the bi-annual meeting)
 - iv. Number of other accredited programs to which Accord recognition does not apply
 - v. Overview of the accreditation/recognition visit programme – frequency of visits and scope of programme for the next six years (comprehensive and provisional accreditation/recognition)
 - d. Any recent major activities
 - e. Any changes in operating environment
 - f. Updated statement on the potential ability to fulfil obligations to signatories if admission as a signatory was to occur in the future:
 - i. Any changes in the structure of the licensing/registration/regulatory system for provision of computing and IT-related services within the jurisdiction of the signatory
 - ii. Changes in the licensing/registration/regulatory/membership bodies
 - iii. Changes in the relationship of the signatory with the relevant licensing/registration/regulatory/membership bodies
 - iv. Credit given to graduates of programmes accredited/recognised by the signatory in the licensing/registration/regulatory/membership processes within the jurisdiction
 - v. Credit already given to graduates of Accord signatories within the licensing/registration/regulatory/membership processes within the jurisdiction

6.3 Issue Resolution

1. In cases where it comes to the attention of a particular signatory that graduates of programmes accredited by that signatory have not been accorded the same level of recognition by a licensing/registration/regulatory/membership body within a jurisdiction as graduates from

programmes accredited/recognised by the signatory within that jurisdiction then the signatory concerned must notify the signatory responsible for the jurisdiction within which the lack of recognition has occurred, and request the latter to undertake actions to resolve the issue.

2. If, in the view of the aggrieved signatory, reasonable opportunity has been given but the matter has not been satisfactorily resolved, then the aggrieved signatory may request an issue resolution session, open only to signatories, where issues on implementation of the Accord can be raised in a solution-focused environment. Prior to an issue being accepted for discussion, it must be demonstrated via a formal written report that substantive discussions leading up to the meeting were undertaken but issues were not able to be resolved. Both individual cases and trends or systemic issues may be raised.
3. Requests for an issue resolution session, with supporting documentation, shall be submitted to the Committee at least 60 days prior to an Accord meeting, and the Committee, after communicating with both signatories concerned must make a decision as to whether to proceed to hold the session at least 30 days prior to the meeting. The secretariat shall circulate the notice of the session and the relevant documentation immediately the Committee has decided to schedule the issue resolution session. In instances where the signatory is not the licensing or registration body, the signatory is expected to provide evidence of procedures and processes that it has undertaken to encourage full implementation of the Accord in their jurisdiction.
4. If a number of signatories can provide substantive evidence of failure of a signatory to meet its Accord obligations, they may choose to invoke the provisions under Rule 4.3 Termination for Failure to Meet Obligations as a Signatory.

7. Principles of Good Practice for Accord Signatories Working Internationally

These principles are intended to provide a generally accepted framework for undertaking reviews in jurisdictions where there is no organisation that is a signatory of the Accord. They are intended to strengthen the international stature of the Accord Agreement, strengthen the working relationship among Accord signatories and international quality assurance agencies, and encourage and enhance ongoing cooperation and communication.

Principle 1. Considerations for Accord Signatories When Determining to Undertake Quality Assurance Evaluations in another Jurisdiction covered by no member of the Accord

Accord signatories will:

- Affirm their organizational capacity to undertake a review (e.g., language, trained staff and evaluators, budget, experience, basic information about the jurisdiction);
- Clarify the relationship of international review activity to the priorities of the accrediting organization;
- Communicate with other Accord signatories about international review activity;
- Promulgate a clear statement of the scope of the evaluation and the use of the recognition status by an institution or program in another jurisdiction, especially with regard to transfer of credit and degree and qualifications equivalency;

- Assure clear understanding of the relationship of the review to any international agreements that address quality assurance.

Principle 2. Expectations for Conduct of Evaluation Reviews Abroad

Accord signatories will:

- Inform jurisdiction quality assurance agencies in jurisdictions where reviews are undertaken and, where appropriate, seek information, guidance, and concurrence from these agencies;
- Communicate with rectors and other college and university officials at institutions where they are conducting reviews;
- Assure that staff and evaluators are adequately informed about higher education and quality assurance in the jurisdictions in which they are conducting reviews to preclude the appearance of cultural insensitivity;
- Communicate fully and clearly about costs and currencies associated with a review.

Principle 3. Quality Assurance of Online and Web-based Instruction and programs

Accord signatories will:

- Work as closely as possible with their institutional and programmatic exporters of online and web-based education to assure quality as offerings are made available in a variety of jurisdictions, especially when the offerings involve instructional strategies that are unfamiliar to the host jurisdiction;
- Urge that these exporters review language, literacy and study skills levels of the target audience for these offerings, preparing separate or supplemental material to meet special needs if appropriate.

Principle 4. Responsibilities to Students and Colleagues

Accord signatories will:

- Work with the appropriate agencies in non-signatory jurisdictions to provide the most comprehensive and accurate information available about educational services and programs to avoid the export of diplomas of questionable quality offered for a fee;
- Develop, in coordination with international colleagues, the appropriate protocol to assist nonsignatory jurisdictions in reviewing educational imports from questionable provenance.

Principle 5. Working in Jurisdictions which are developing countries

Accord signatories will:

- When a signatory seeks approval to accredit programmes offered by providers in a non-Accord jurisdiction, a written agreement must be signed between the parties. This agreement put before the meeting of signatories when seeking approval to accredit.
- Recognition of programmes commences with accreditation visits subsequent to the formal approval by the Accord's signatories.
- Only one approved signatory will be chosen by the Accord signatories for a non-Accord jurisdiction.
- The approved signatory, with the assistance of other signatories as appropriate, may assist the jurisdiction to establish an accreditation system and mentor the jurisdiction to a point where it is ready to apply for provisional status. In such a case, a joint accreditation process may operate for a period.

- The approved signatory, with the assistance of universities with accredited programmes as appropriate, may assist a university in a jurisdiction that is a developing country that seeks recognition to improve its programmes to the level of substantial equivalence. The signatory's input would focus on creating an understanding of criteria acceptable to the Accord and the quality assurance process.

Section D - Graduate Attributes

Introduction

The role of professionals who innovate, design, implement and maintain computers, computing systems, and computing applications has become essential to both the economic development of, and the provision of services to, society. Typical computing activities require several roles that are named and recognized in different ways in many jurisdictions.¹ These roles, with a degree of overlap among them, are defined by their respective distinctive competencies.

The development of a computing professional is a continuous learning process. The first stage may be the attainment of an *accredited educational qualification*, the graduate stage. The second stage, following a period of training and experience, may lead to *professional registration, licensure*, or some other professional recognition, depending on the country or jurisdiction. In addition, computing professionals are expected to engage in life-long learning in order to maintain and enhance competency throughout their working lives.

Because of the universally essential nature of computer applications and the mobility of professionals across jurisdictional boundaries due to globalization, there is a real need to identify academic programs that adequately prepare graduates for entry into a computing profession based on generally recognized knowledge and abilities across country and other jurisdictional boundaries. Toward this end, the Seoul Accord is established as a mechanism for recognizing the equivalence of accredited educational qualifications in the development of computing professionals. The Seoul Accord provides for mutual recognition of graduates of accredited programs² among the signatories of the accord. This accord is based on the principle of equivalence of educational preparation for entry to a computing profession, rather than on exact correspondence of content and outcomes of accredited programs. This document, Seoul Accord Graduate Attributes (SAGA), presents the accord signatories' consensus on the generally-accepted attributes of graduates for programs included in the accord.

Section 2 of this document provides background, scope, limitations, and the contextual interpretation for the graduate attributes (presented in Section 5). Section 3 provides a number of definitions that form a common basis for understanding the general applicability of the attributes. General range statements are presented in Section 4, and the graduate attributes themselves are provided in Section 5.

Background for the Graduate Attributes

Purpose of Graduate Attributes

¹ The term *computing* is used in this document as a discipline in a broad sense, and it includes many other general terms such as *informatics, computing and IT-related*, and *information and communication technology* that may be used elsewhere. It is recognized that different terminology is used in different countries, and that specific titles or designations may have differing legal empowerment or restrictions within individual jurisdictions.

² The term *program* is used in this document to indicate the academic qualification that prepares a graduate for entry into a computing profession. Other terms for the same thing, such as *course*, may be used in some educational systems.

The *graduate attributes* are intended to define the scope and standards for programs that are recognized by the Seoul Accord, as well as to assist accord signatories and provisional members in developing outcomes-based accreditation criteria for use in their respective jurisdictions. Also, the graduate attributes guide bodies that are currently developing their accreditation systems with a goal of seeking to become signatories of the accord.

Graduate attributes form a set of individually-assessable outcomes that are indicative of a graduate's potential competency. The graduate attributes are exemplars of the attributes expected of a graduate from an accredited program. Each attribute is a succinct statement of an expected capability, qualified, if necessary, by a range indication appropriate to the type of program. The attributes identify the characteristics of graduates of all computing programs that fall within the scope of the Seoul Accord. A signatory may identify additional attributes that differentiate specific programs accredited by the signatory.

Limitation of Graduate Attributes

Each signatory defines the criteria against which computing educational programs are evaluated for accreditation. The accord is based on the principle of *equivalent qualification*. That is, programs are not expected to have identical outcomes or content, but rather are expected to produce graduates who are prepared to enter professional careers in computing. The graduate attributes provide a point of reference for accreditation bodies to describe the outcomes of an equivalent qualification. The graduate attributes do not represent “international standards” for accreditation.

Scope and Organization of Graduate Attributes

In defining the attributes, it is useful to distinguish among various types of post-secondary educational preparation. In conformance with corresponding terminologies employed by the International Educational Accords³, the graduate attributes contrast the differences among the educational preparation for what will be called the *computing professional*, the *computing technologist*, and the *computing technician*. Each of these categories is unique in the range of problem solving skills and professional competency, and the categories are generally typified by successively less formal educational requirements. For each attribute name, characteristics or abilities relative to the attribute that should be obtained through formal education or training are listed for each of the roles of computing professional, computing technologist, and computing technician. The scope of the Seoul Accord encompasses only those academic programs that are accredited by accord signatories as preparing graduates for roles as computing professionals.

Each of the attribute statements is formulated for the professional, technologist, and technician using a common stem, with varying additions appropriate to each educational track. For example, for the **Knowledge for Solving Computing Problems** attribute:

Common Stem: Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization ...

³ The International Educational Accords are comprised of the Washington Accord, Sydney Accord, and Dublin Accord (see <http://www.washingtonaccord.org/>)

Computing Professional Range: ... to the abstraction and conceptualization of computing models from defined problems and requirements.

Computing Technologist Range: ... to defined and applied computing procedures, processes, systems, or methodologies.

Computing Technician Range: ... to a wide variety of practical procedures and practices.

The resulting statements are shown below for this example:

... for Seoul Accord (Computing Professional) graduate	... for Computing Technologist graduate	... for Computing Technician graduate
Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.	Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to defined and applied computing procedures, processes, systems, or methodologies.	Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to a wide variety of practical procedures and practices.

The range qualifier in several attribute statements uses the notions of complex computing problems, broadly-defined computing problems, and well-defined computing problems or the notions of complex activities, broadly-defined activities, and well-defined activities. These designators for different levels of problem complexity and professional activity are defined in Section 4, and the full set of graduate attribute definitions is given in Section 5.

Contextual Interpretation

The graduate attributes are stated generically and are applicable to all computing disciplines. In interpreting the statements within a disciplinary context, each individual statement may be amplified and given particular emphasis, but in doing so its substance must not be altered and its individual elements must not be ignored.

Definitions Associated with the Graduate Attributes

The **practice area** of a computing professional, computing technologist, or computing technician is defined both by the area of computing knowledge and skills, and by the nature of the activities performed.

A **computing problem** in any domain is one that can be solved by the application of computing knowledge, skills, and generic competencies.

Solution means an effective proposal for resolving a problem, taking into account all relevant technical, legal, social, cultural, economic, and environmental issues and respecting the need for sustainability.

Common Range and Contextual Definitions Associated with the Graduate Attributes

Range of Problem Solving

	Characteristic	A Complex Computing Problem is a computing problem having some or all of the following characteristics:	A Broadly-defined Computing Problem is a computing problem having some or all of the following characteristics:	A Well-defined Computing Problem is a computing problem having some or all of the following characteristics:
1	Range of conflicting requirements	Involves wide-ranging or conflicting technical, computing, and other issues	Involves a variety of factors, which may impose conflicting constraints	Involves several issues, but with few of these exerting conflicting constraints
2	Depth of analysis required	Has no obvious solution, and requires conceptual thinking and innovative analysis to formulate suitable abstract models	Can be solved by application of well-proven analysis techniques	Can be solved in standardised ways
3	Depth of knowledge required	A solution requires the use of in-depth computing or domain knowledge and an analytical approach that is based on well-founded principles	A solution requires knowledge of principles, and applied procedures or methodologies	Can be resolved using limited theoretical knowledge, but normally requires substantial practical knowledge
4	Familiarity of issues	Involves infrequently-encountered issues	Belongs to families of familiar problems, which are solved in well-accepted ways; context may be unfamiliar	Is frequently encountered and thus familiar to most practitioners in the field; context may be unfamiliar
5	Level of problem	Is outside problems encompassed by standards and standard practice for professional computing	May be partially outside those encompassed by standards or standard practice	Is encompassed by standards and/or documented procedures of practice
6	Extent of stakeholder involvement and level of conflicting requirements	Involves diverse groups of stakeholders with widely varying needs	Involves several groups of stakeholders with differing and occasionally conflicting needs	Involves a limited range of stakeholders with differing needs
7	Consequences	Has significant consequences in a range of contexts	Has consequences that are important locally, but may extend to a broader context	Has consequences that are important locally, and usually are not far-reaching
8	Interdependence	Is a high-level problem possibly including many component parts or sub-problems	Is part of, or systems within, a complex computing problem	Is a discrete component of a computing system

9	Requirement identification	Identification of a requirement or the cause of a problem is ill defined or unknown	Identification of a requirement or the cause of a problem is possible from a set of known options	A requirement or the cause of a problem can be determined by well-established ways
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Range of Computing Activities

	Characteristic	A Complex Computing Activity is a computing activity or project that has some or all of the following characteristics:	A Broadly-defined Computing Activity is a computing activity or projects that has some or all of the following characteristics:	A Well-defined Computing Activity is a computing activity or project that has some or all of the following characteristics:
1	Range of resources (people, money, equipment, materials, information, and technologies)	Involves the use of diverse resources	Involves a variety of resources	Involves a limited range of resources
2	Level of interactions	Requires resolution of significant problems arising from interactions among wide-ranging or conflicting technical, computing, contextual, or other issues	Requires resolution of occasional interactions among technical, computing, contextual, and other issues, of which few are conflicting	Requires resolution of interactions between limited technical and computing issues, with little or no impact from broader issues
3	Innovation	Involves creative use of knowledge of computing or domain principles in novel ways	Involves the use of new resources, techniques, or computing processes in innovative ways	Involves the use of existing resources techniques, or computing processes in new ways
4	Consequences to society and the environment	Has significant consequences in a range of contexts	Has consequences that are most important locally, but may extend more widely	Has consequences that are locally important and not far-reaching
5	Familiarity	Can extend beyond previous experiences by applying principles-based approaches	Requires a knowledge of normal operating procedures and processes	Requires a knowledge of practical procedures and practices for widely applied operations and processes

Graduate Attributes

The following table provides profiles of graduates of three types of postsecondary educational computing programs. See Section 4 for definitions of *complex*, *broadly-defined*, and *well-defined* computing problems and activities. Note that the Seoul Accord applies only to the Computing Professional graduate, and that the columns for Computing Technologist and Computing Technician are included for comparative and clarification purposes only.

		Differentiating Characteristic	... for Seoul Accord (Computing Professional) Graduate	... for Computing Technologist Graduate	... for Computing Technician Graduate
1	Academic Education	Educational depth and breadth	Completion of an accredited program of study designed to prepare graduates as computing professionals	Completion of a program of study typically of shorter duration than for professional preparation	Completion of a program of study typically of shorter duration than for technologist preparation
2	Knowledge for Solving Computing Problems	Breadth and depth of education and type of knowledge, both theoretical and practical	Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements	Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to defined and applied computing procedures, processes, systems, or methodologies	Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to a wide variety of practical procedures and practices
3	Problem Analysis	Complexity of analysis	Identify, formulate, research literature, and solve <i>complex</i> computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines	Identify, formulate, research literature, and solve <i>broadly-defined</i> computing problems reaching substantiated conclusions using analytical tools appropriate to the discipline or area of specialization	Identify and solve <i>well-defined</i> computing problems reaching substantiated conclusions using codified methods of analysis specific to the field of activity

4	Design/ Development of Solutions	Breadth and uniqueness of computing problems, i.e., the extent to which problems are original and to which solutions have previously been identified or codified	Design and evaluate solutions for <i>complex</i> computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations	Design solutions for <i>broadly-defined</i> computing technology problems, and contribute to the design of systems, components, or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations	Design solutions for <i>well-defined</i> computing problems, and assist with the design of systems, components, or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations
5	Modern Tool Usage	Level and appropriateness of the tool to the type of activities performed	Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to <i>complex</i> computing activities, with an understanding of the limitations	Select and apply appropriate techniques, resources, and modern computing tools to <i>broadly-defined</i> computing activities, with an understanding of the limitations	Apply appropriate techniques, resources, and modern computing tools to <i>well-defined</i> computing activities, with an awareness of the limitations
6	Individual and Team Work	Role in, and diversity of, the team	Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings	Function effectively as an individual and as a member or leader in diverse technical teams	Function effectively as an individual and as a member in diverse technical teams
7	Communication	Level of communication according to type of activities performed	Communicate effectively with the computing community and with society at large about <i>complex</i> computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions	Communicate effectively with the computing community and with society at large about <i>broadly-defined</i> computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions	Communicate effectively with the computing community and with society at large about <i>well-defined</i> computing activities by being able to comprehend the work of others, document one's own work, and give and understand clear instructions

8	Computing Professionalism and Society	No differentiation in this characteristic except level of practice	Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice	Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to computing technologist practice	Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to computing technician practice
9	Ethics	No differentiation in this characteristic except level of practice	Understand and commit to professional ethics, responsibilities, and norms of professional computing practice	Understand and commit to professional ethics, responsibilities, and norms of computing technologist practice	Understand and commit to professional ethics, responsibilities, and norms of computing technician practice
10	Life-long Learning	No differentiation in this characteristic except level of practice	Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional	Recognize the need, and have the ability, to engage in independent learning for continual development as a computing technologist	Recognize the need, and have the ability, to engage in independent learning for continual development as a computing technician

Conclusion

Judgments on the standards of academic qualifications are often subjective. Only in the formal accreditation process is evidence judged against defined criteria. These criteria have become increasingly aligned through international accords, driven by globalisation of computing practice and the accompanying mobility of computing graduates and professionals. The Graduate Attributes listed here comprise a definition by the Seoul Accord of a set of outcomes that typify potential competency and performance on the part of graduates of computing programs within the scope of the accord. The Graduate Attributes will undoubtedly be refined as the computing discipline and the criteria of the accord signatories evolve.

Acknowledgement

This document is an adaptation of a similar document that is used for the Washington Accord, Sydney Accord, and Dublin Accord for engineering, engineering technology, and engineering technician (see <http://www.washingtonaccord.org/>). The work of the developers of the engineering attributes is gratefully acknowledged as the basis for this document.