

REPORTS FROM DISCIPLINE ADVISORY PANELS

2006/2007

Biomedical Discipline Advisory Panel

Session 2006/2007 saw a fruitful year for the Biomedical Discipline. This year we have been growing healthily and attracted a good number of existing HKIE members and non-members alike to join the Discipline. As an auspicious start in April 2007, 48 engineers from the academic, industry, hospital and government sectors successfully became Founding Members of the Discipline. Given the increasing popularity of biomedical engineering with the advent of the “biotech” age, the recent series of unfortunate events surrounding medical devices (like Polyacrylamide Gel), and the Government’s initiative to regulate the sale and use of medical devices in Hong Kong, it is expected that more people will join the Discipline.

We believe that education and training should go in hand in hand, through which one gains experience and knowledge to develop in one’s career. To better prepare the talented young graduates in biomedical engineering, we encourage the setting up of Scheme ‘A’ training programmes by employers in this field. A seminar entitled “Scheme ‘A’ Training Experience Sharing Seminar” was conducted on 12 August 2006 to share the experience of existing Scheme ‘A’ training programme providers, including the Electrical and Mechanical Services Department and the Hong Kong Productivity Council, with prospective biomedical engineers employers. The Hospital Authority, the largest healthcare service provider in Hong Kong, has introduced its Scheme ‘A’ training programme later this year.

The rapid progress of medicine and medical technology has brought with it many challenges, including structural changes in the management of diseases, increasing number of elderly people, and safety and reliability of medical technology, just to name a few. The proposed regulation of medical devices will increase public awareness of some of these challenges and engage the professionals as well as the industries in facing these challenges. Therefore the society will have greater demand for and reliance on biomedical engineering professionals if we were to solve the problems relating to medical technologies of today and tomorrow.

Building Discipline Advisory Panel

Subsequent to the approval by the Council on the mutual recognition arrangements between the Building Discipline and the Chartered Institute of Building (CIOB)(UK), the Discipline held the first mutual recognition examination in October 2006 for members of the CIOB (UK) to apply for corporate membership of the Building Discipline. The examination covered a 16-hour lectured training, followed by a written test and a professional interview. 48 candidates attended the examination. 21 of them passed and became our members. Counting new qualified members through the regular and mature routes, the total membership of the Building Discipline is now over 300.

Following the establishment of a Project Management sub-list within the Discipline on the request of the China Association of Engineering Consultants (CAEC) (中國建設監理協會), a delegation led by Chairman of the HKIE Mutual Recognition Task Force, whose members included Ir Prof C K Lau, and members of the Discipline Advisory Panel Ir Arthur Yung, Ir Joseph Chan, Ir Sunny Law, Mr Albert Chow and Ir S Y Chan, visited the CAEC in November 2006.

Through these interactions, Task Force members thoroughly understood the functions of supervising engineers in China, which were considered

compatible with the duties of members of the Building Discipline (Project Management – sub list). We also invited the Ministry of Construction and CAEC to visit the HKIE in the first half of 2007 to finalise arrangements for the mutual recognition exercise of supervising engineers.

Building Services Discipline Advisory Panel

In addition to the normal duties on qualification and membership matters, our major tasks performed in Session 2006/2007 included the following:

We actively participated in the Task Force on Mutual Recognition Agreement between the HKIE and National Administration Board of Engineering Registration (NABER), such as attending relevant working meetings in the Ministry of Construction in Beijing. A dedicated Specialist Liaison Group was formed to proceed with this important task.

On training matters, our Training Committee Representative contributed in the Working Group by making recommendations for the implementation of Scheme ‘A’ Training in Macau and Mainland China.

The Panel continued to work in close collaboration with the Building Services (BS) Division Committee to give views and comments on matters and consultation papers of interest to our profession.

Finally, in collaboration with the BS Division Committee, the Panel has been working diligently on the preparation for the large scale research project which had been reported last year – “Research Study on Hong Kong’s Building Services Profession – With a View to Enhance Future Roles and Functions of Hong Kong’s Professional Building Services Engineers in Society”. Hopefully, by the time this report is published, the Panel will have raised enough funds to commence the actual study in the summer of 2007.

Chemical Discipline Advisory Panel

The Panel was to review the Core Objectives for Scheme ‘A’ Training to local companies and graduates. The Panel supported that chemical engineers should play an important role in designing, operating, trouble-shooting and managing industrial facilities to (i) minimise pollution; (ii) recover, recycle and reuse materials from waste streams; and (iii) focus on the applications of chemical engineering to environmental pollution control and management problems. In order to achieve these goals, Chairman of the Discipline supported to nominate an expert in chemical and environmental engineering as the new Chairman to vitalise the Discipline.

During the Session, the Panel continued to provide advice and support to the Q & M Board and associated committees on matters relating to membership qualification, training and education.

Civil Discipline Advisory Panel

The Civil Discipline Advisory Panel looks after the interest of a significant proportion of HKIE members in terms of qualification, education, training and professional assessments. One key role provided by the Panel is to advise the Q & M Board and various training committees of the HKIE on matters relating to accreditation of degrees as well as Scheme ‘A’ training which are

crucial for the increase in the number of engineers in the Discipline for the well being of Hong Kong.

Handling some 200 candidates seeking professional assessment is the most profound task of the Panel every year. Therefore a considerable amount of time was spent to handle the administration of all applicants who aspired to be qualified as a Corporate Member of the HKIE.

On inter-institutional affairs, the Panel has been working closely with the Institution of Civil Engineers (ICE) in the past years on joint assessment. The joint assessment aims to combine all applications of the two Institutions into one assessment which eliminates differences in standard and streamlines the demand of examiners. Negotiations with the ICE continued over the Session. However, there are quite a number of issues that needed to be resolved.

In the past few years, significant progress has been achieved by other disciplines on mutual recognition with NABER, notably the Structural Discipline as well as the Geotechnical Discipline. Headed by the Environment, Transport and Works Bureau of the Government, discussions with NABER have been continuing in the Civil Discipline and it is expected such negotiations would take some time to conclude.

Control, Automation & Instrumentation Discipline Advisory Panel

The Panel continued to provide support to the Q & M Board and the associated Sub-committees with regard to membership qualifications, training and education matters. During the period, membership of the Discipline has increased by 8.9% on an overall basis and by 9.9% on the Corporate side.

Interaction between relevant Societies in China and the Discipline remained close throughout the Session. In April 2007 representatives of the Panel attended the annual ceremony held by the Chinese Instrumentation Society (CIS) in Shenzhen and the CIS reciprocated the same in May 2007. It is anticipated that close interaction shall be maintained between the two organisations to ensure any policy changes affecting the Institution can be identified and followed up by necessary actions.

Electrical Discipline Advisory Panel

The Panel has continued to assist the Institution in negotiating with The Institution of Engineering and Technology (IET) for the Reciprocal Recognition Agreement (RRA). A meeting was held in August 2006, attended by representatives of the IET and the HKIE. A full draft Agreement was then prepared and approved in the first Q & M Board meeting for further discussion with the IET. During subsequent months, there had been informal meetings between the HKIE and the IET but no agreement could be reached on Clause 9. It was concluded in the fifth Q & M Board meeting held on 2 May 2007 that no further negotiation with the IET would be undertaken.

Meanwhile, over 100 applications for admission to the Electrical Discipline via RRA with the Institution of Electrical Engineers (IEE) were received before the termination date of 31 March 2006. The Panel had been busy in checking the applications and over 80% of these were accepted while the remaining required further scrutiny or professional interviews.

On the Mutual Recognition of Professional Qualifications between the Ministry of Construction (MOC) and the HKIE, the Panel attended the ninth Joint Meeting on 14 November 2006 in Beijing. One of the MOC representatives at the meeting was from the Electrical Discipline and it was reported that registration of electrical engineers on the Mainland would commence in due course. However, overall progress was still slow.

As for the cooperation with the Chinese Society for Electrical Engineers, no further meetings had been held during the Session.

The Discipline currently has 102 Fellows and 1,269 Corporate Members. An increase of 131 Members was recorded this year.

Electronics Discipline Advisory Panel

The Panel is pleased to report that activity level of the Electronics Discipline has grown from strength to strength in Session 2006/2007. This was again another fruitful and productive year for the Panel. The number of applications for the Discipline membership/assessment received during the year almost doubled as compared to last year. A total of 38 new members, up 30% on last year, were admitted to the Discipline. More applications are in the pipeline.

Riding on the successful membership drive at the Hong Kong Science and Technology Parks Corporation over the last few years, the Panel actively promoted membership in a focused and effective way during the Session. It also coordinated and performed routine activities, which included the professional assessment of applications for membership, and the assessment and re-assessment of Scheme 'A' training. The Panel has also undertaken a continuous review of the Core Objectives and the Model Training Guide for Scheme 'A' training, with a view to meeting the latest challenges faced by the electronics industry in the 21st century. The Panel has continued to work closely with the Electronics (EN) Division over the year. This strategy has proved to be effective and the Panel is planning to organise similar membership promotion activities targeted at large corporations.

The Panel also put immense effort in attracting student members who will become the new breed of professional electronics engineers to join the Discipline. With full support from the EN Division, the Panel gave professional career development talks to electronics engineering students from all local universities and institutions offering degree, associate degree and higher diploma programmes.

A total of 14 companies participated in the Scheme 'A' training programme of the Discipline. 25 degree and sub-degree programmes relating to the Discipline were accredited to date.

Environmental Discipline Advisory Panel

Following seven months of continuous dialogue with senior officials of the Government, the Institution succeeded in securing the Government's recognition of member of the Discipline as having equal standing as other disciplines in July 2006. The intensive effort by Panel members and senior officials of the Institution has rectified this hidden anomaly which has been present since the formation of the Panel in 1994. Further approaches have been made to major corporations and public utilities for recognising Discipline membership as one of their employment conditions.

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During Session 2006/2007, a further meeting was arranged through the Institution on the wider use of R.P.E. (ENV) with the Government to explore the possibility of specifying R.P.E. (ENV) in environmental legislation. Progress has been made regarding the new legislation. On the retrospective amendments to the Noise Control Ordinance and Air Pollution Ordinance made before the formation of the Panel in 1994, some difficulties have been met and further review and liaison with relevant parties will be made in the coming Session.

A proposal on the admission of non-accredited degree holder with long years of relevant experience has been deliberated at length. In addition, a formal mechanism has been approved by the Institution, to maintain the importance of having a clear definition of "Engineer" and to keep the flexibility of catering for the very experienced professional engineers with non-traditional formation. This proposal will be reviewed within three years.

During this Session, we processed six applications for professional assessment and five members were admitted to the Discipline. We also reviewed degree programmes accreditation and re-accreditation. We noted that a single standalone environmental engineering Degree is no longer available while degrees in environmental engineering under other engineering disciplines or double major are offered. We anticipate a busier year ahead.

Fire Discipline Advisory Panel

Session 2006/2007 was quite a busy year for the Fire Discipline Advisory Panel. The Panel held five meetings to resolve issues concerning academic qualifications and experiences, top-up courses and a host of other matters arising from the screening of Founding Member applications.

With a view to publicising the new Fire Discipline, two well-received Technical Forums were held in November and December 2006 to introduce prospective applicants on admission prerequisites. Panel members also conducted media interviews with the South China Morning Post, Ming Pao and Tai Kung Pao. In August 2006, the Panel supported the HKIE in staging a Careers Expo jointly organised with the Hong Kong Institute of Architects, the Hong Kong Institute of Landscape Architects, the Hong Kong Institute of Planners and the Hong Kong Institute of Surveyors.

Thanks to the hard work of Panel members, the finalised drafts of Model Training Guide and Record of Objectives were submitted to the Training Committee for approval.

Externally, the Panel representatives gave some very ready responses to the press following a number of fires that had attracted public attention. On other occasions, the Panel supported the HKIE in offering technical advice to enquiries from the Fire Services Department and Buildings Department. Members of the Panel, together with the President, Secretary and other representatives, also received two visits to the HKIE by the International President of the Institution of Fire Engineers in August 2006 and March 2007 respectively to discuss areas of co-operation and mutual interests.

The Panel is pleased to see the commencement of R.P.E. (FRE) registration in this Session and is looking forward to the formation of a new Fire Division hopefully in the coming Session.

Gas Discipline Advisory Panel

During Session 2006/2007, Panel members continued to meet and exchange views regularly to deal with important professional and qualification issues relating to the gas industry. Panel representatives continued to sit on the Q & M Board, Registration Committee, Professional Assessment Committee, Education & Examinations Committee, Training Committee and Training Review Sub-committee to discuss and advise on matters pertaining to professional qualification.

One of the major achievements this year was the successful renewal of the Reciprocal Recognition Agreement with the Institution of Gas Engineers & Managers. The incorporation of Clause 9 stipulating that applicants who have substantive training and experience in a given jurisdiction should first apply for membership in that jurisdiction had initially created a barrier to the renewal agreement. With efforts made by members involved in the liaison and the understanding shown by both Institutions in respect of the spirit of such new requirements, we were able to narrow the gap and eventually had the renewal agreement ratified and signed.

The Panel also reviewed its acceptance criteria for candidates holding the Engineering Council (UK) Examinations qualification. The guidelines of the Gas Discipline were submitted to the Institution for reference. A discussion meeting was also held on the Construction Workers Registration Ordinance and its possible impacts on the gas trade. The Discipline's view was fed to the Institution afterwards.

Geotechnical Discipline Advisory Panel

The Panel met four times in the Session, during which members exchanged their views on issues of the quality of membership and other related matters. The panel has continued its representation on the Q & M Board and associated committees on membership, education, training, professional assessment and reciprocal recognition.

Further to the Q & M Board's recognition of the Master of Science Course in the field of applied geoscience, a programme was offered by the University of Hong Kong to top up Earth Science graduates for the Geotechnical Discipline of the MHKIE. Members of the Panel joined the course committee to help assure the learning quality of students studying for master's degrees.

The Panel examined the need and basis of reciprocal recognition with geotechnical engineers on the Mainland. The Discipline Representative took part in the discussions with Mainland officials and counterparts for the setting up of a working group for Hong Kong and Mainland representatives to exchange views and to work out details for reciprocal recognition of geotechnical qualification.

Information Discipline Advisory Panel

Apart from email communications among members for deliberation of matters relating to the Q & M Board and the committees/sub-committees on training, education and examinations, membership, qualification and professional assessments of the Institution, the Panel held two meetings during Session 2006/2007.

The Panel continued its efforts during the year in membership development to enable the HKIE to become the professional home for all qualified information engineers and Information Technology professionals in Hong Kong. The Panel has established closer cooperation with the Information Technology Division Committee on membership drive and the setting up of the Information Security and Digital Forensic Special Interest Group within the Division. The Discipline, together with the Environmental Discipline and Materials Discipline, and with the support of the Q & M Board, has worked out a scheme for a period of three years for considering membership applications made by non-accredited degree holders who should have worked in these engineering disciplines for at least eight years. This development should place the Discipline in a more favourable position to attract more high-calibre and experienced members in Information as well as Information and Communication Technology engineering.

Manufacturing & Industrial Discipline Advisory Panel

In this Session, the Panel held two meetings to discuss various issues relating to the strategic direction of the Discipline. It has continued to serve the Institution by providing advice to various committees on membership, qualification, training, education, examination and other matters within the Manufacturing and Industrial Discipline.

The professional assessment assessor list was reviewed. In particular, the Panel supported and facilitated a number of professional aircraft engineers to join the Discipline to drive membership. Panel members also delivered speeches in the aviation career road show to promote the engineering profession to the students.

Logistics has been designated as one of the four pillars of economic development of the Hong Kong Special Administrative Region. It has been incorporated under the Discipline for many years since it is closely related to the manufacturing industry. In view of the importance of the logistics industry in Hong Kong, a task force was set up last November to study the possibilities of highlighting logistics in the Discipline. With approval of the Panel, the task force proposed to explicitly include "Logistics" into the name of the Discipline which is now under consideration of the Q & M Board for approval.

The Panel also gained very strong support and maintained good collaboration with the Manufacturing & Industrial Division.

Marine & Naval Architecture Discipline Advisory Panel

In Session 2006/2007, Panel members held two meetings to discuss matters relating to the Marine & Naval Architecture Discipline and did four interviews for the application of discipline membership and three R.P.E. (MNA) registrations.

The Panel Chairman also represented the Discipline in attending the meeting of the Registration Committee of the Engineers Registration Board and the Q & M Board.

Materials Discipline Advisory Panel

The field of materials technology is growing rapidly and is increasingly being regarded as one of the most important areas of development by many governments around the world. Over the past decade, there was an increase in the number of qualified experts in this discipline in Hong Kong. Moreover, the Materials Engineering degree programme at the City University of Hong Kong has been producing about 45 graduates annually for the past 12 years. Attempts have been made by the Panel Chairman to recruit more members to join the Discipline and further effort is required by the Institution to attract this pool of talent.

Mechanical Discipline Advisory Panel

In this Session, the Panel held one meeting to discuss and agree on the most efficient way to handle Panel issues. The exchange of views on various cases via email communication has proved to be effective.

The Mechanical Discipline Advisory Panel has continued to serve the Q & M Board, Registration Committee of Engineers Registration Board, Professional Assessment Committee, Education & Examinations Committee and Training Committee to provide advice and/or comments on matters in connection with qualifications, membership, reciprocal recognition, professional assessment, education, training, disciplinary cases and accreditation of mechanical engineering courses. In addition, three Panel members participated in the Institution Task Force on Mutual Recognition Agreement between the HKIE and the NABER to develop the roadmap for making the initiative a reality.

The Chairman would like to take this opportunity to thank outgoing members for their dedication, commitments and contributions to the Panel.

Structural Discipline Advisory Panel

Panel members met three times in the last Session to discuss issues about the Discipline and professional practice directly and indirectly related to structural engineering. The role and relevance of professional structural engineers practicing research work in tertiary institutions have also been discussed in greater details.

The Panel Chairman together with the Director of Qualifications cum Registrar of the HKIE had a meeting with the Vice-chairman and the Director General of the NABER (Structural) on 9 March 2007 in Shenzhen. The meeting was to discuss on the third Reciprocal Recognition Agreement (RRA) Examination for members of the Structural Discipline which stopped last year due to insufficient candidates. The coming examination is scheduled for the second week of December 2007 in Guangzhou. As the RRA agreement for the Structural Discipline under Closer Economic Partnership Arrangement is only valid for five years, it is expected that the RRA examination next year, would be the last and final one under the Agreement. Members of the Discipline are strongly recommended to take this year's RRA examination to qualify themselves to become Class One Registered Structural Engineer of the People's Republic of China if they have not already done so.